

# THE CITIES OF WILLOUGHBY & EASTLAKE LAKE COUNTY, OHIO WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS OPWC PROJECT No.: CG22AA/CG23AA PART B FEBRUARY 2024

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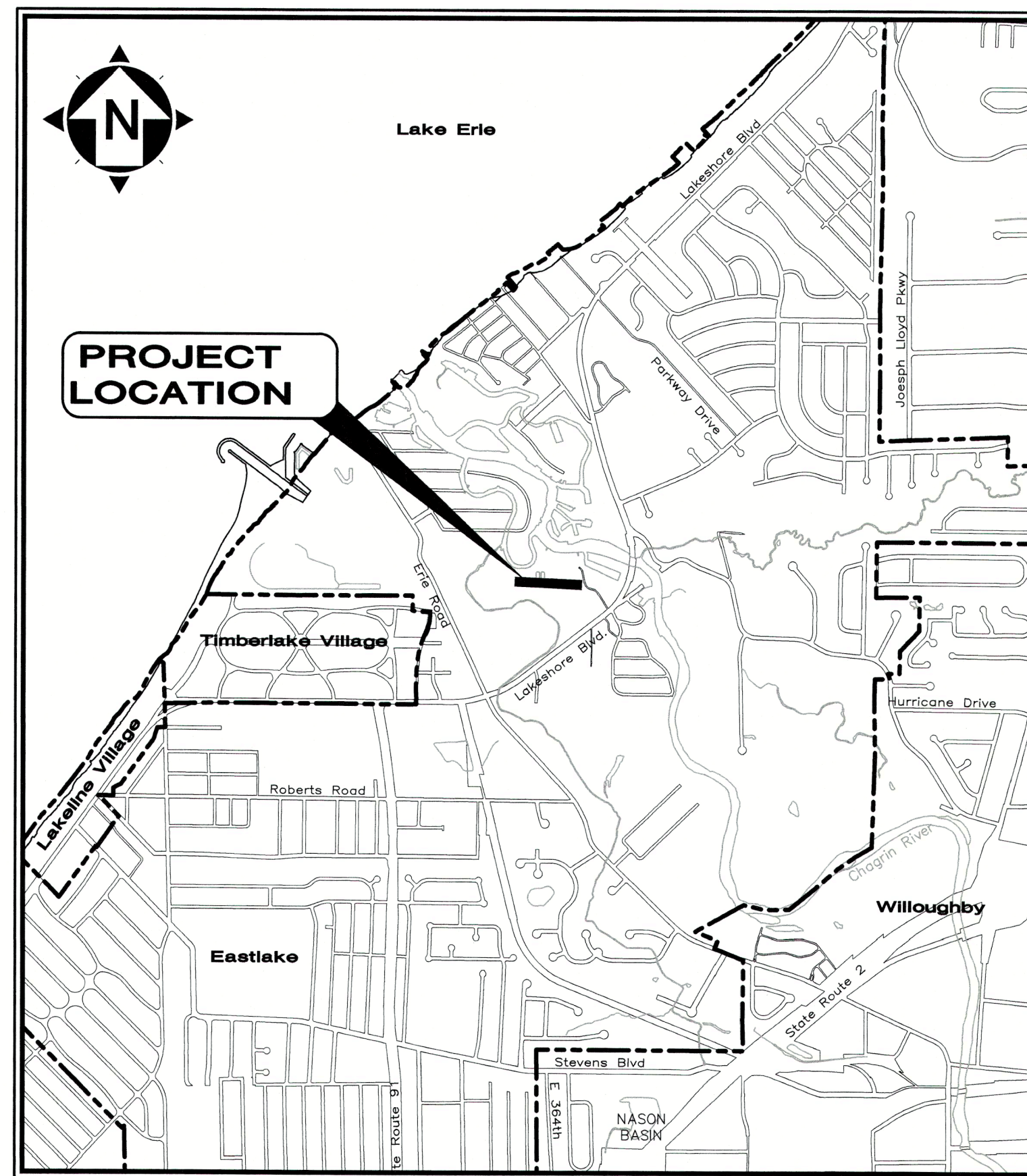
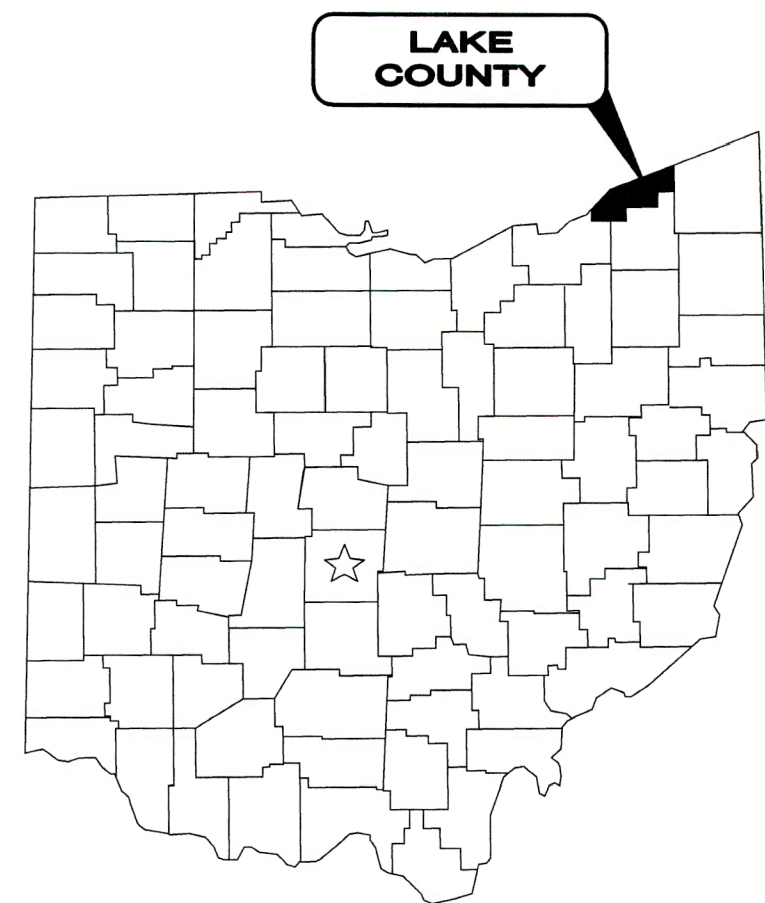


**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES  
CALL TWO WORKING DAYS  
**BEFORE YOU DIG**

CALL  
1-800-362-2764  
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE  
SERVICE CALL: 1-800-925-0988



**LOCATION MAP**  
NOT TO SCALE



**ENGINEER'S PROJECT No. 23004301**

THE CITIES OF WILLOUGHBY & EASTLAKE  
**WATER POLLUTION CONTROL CENTER  
WATERMAIN IMPROVEMENTS**  
LAKE COUNTY, OHIO

**Approved**  
**Paul Moorehead**  
Fire Marshal  
Eastlake Fire Department  
*Paul Moorehead*  
3-6-2024

**CITY OF EASTLAKE APPROVALS:**

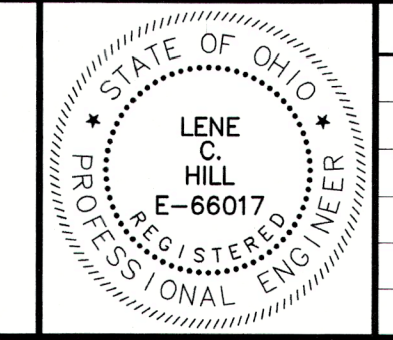
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FIRE CHIEF TED WHITTINGTON DATE

*Paul Hill*  
LENE C. HILL



P.E. No. 66017 3/20/24  
DATE



NO	REVISION	DATE

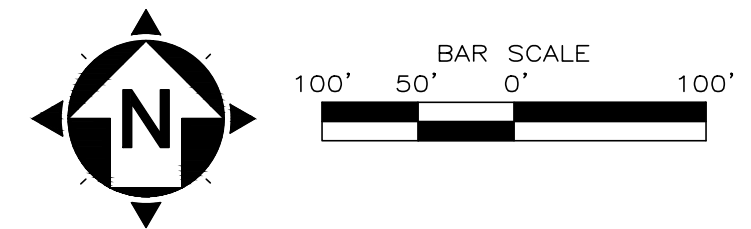
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DATE: 02/21/2024  
DESIGNED BY: BLM  
DRAWN BY: BTZ  
CHECKED BY: TJM

**COVER SHEET**

PROJECT NO: <b>23004301</b>	
DRAWING NAME <b>CS-01</b>	
SHEET <b>1</b>	OF <b>11</b>

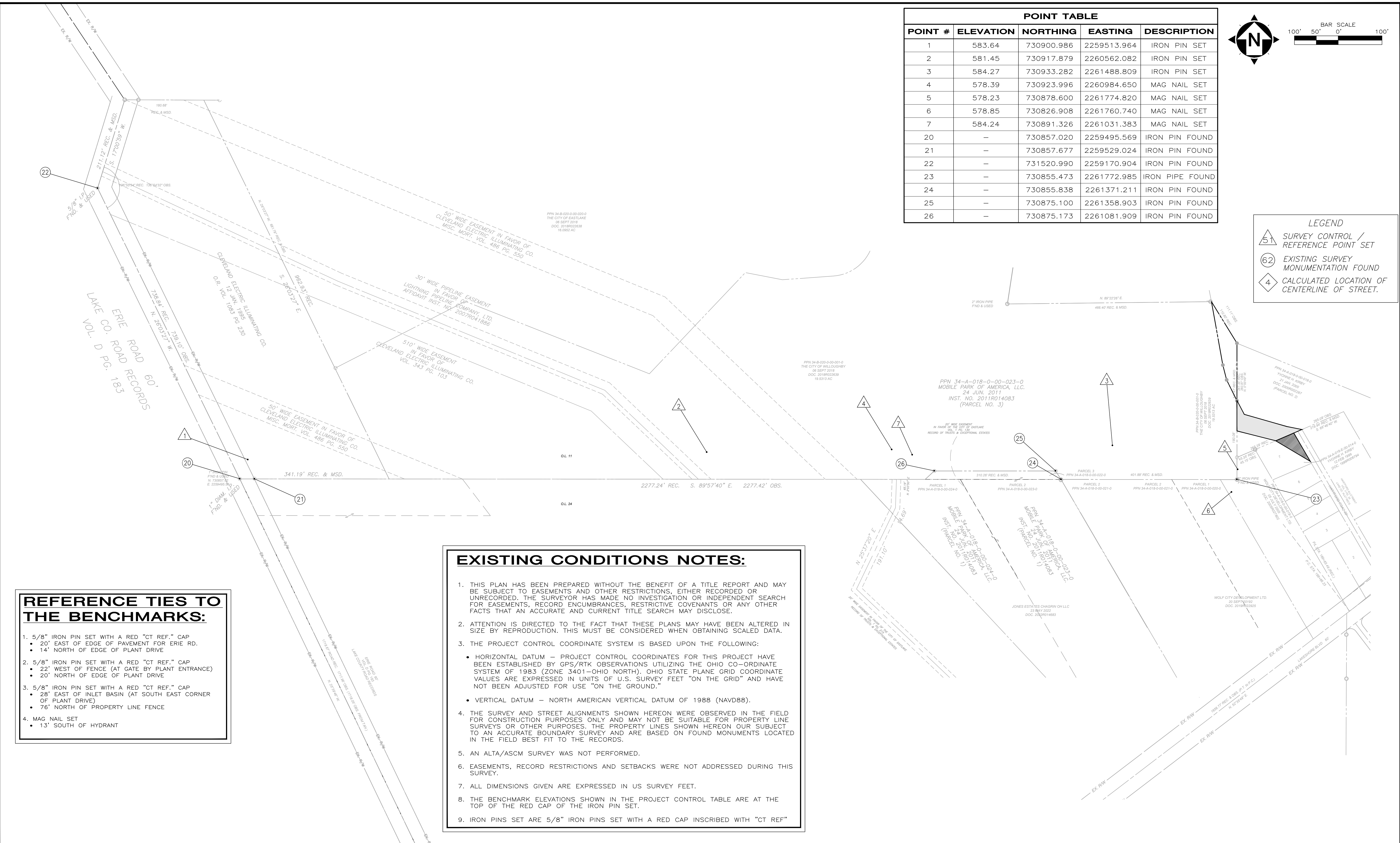
H:\2024\17004301\DWG\SHEETS\PART B\CG\_17004301 - COVER SHEET ADD - PB.DWG - 2/21/2024 1:07:08 PM - KARA@BEC

POINT TABLE				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
1	583.64	730900.986	2259513.964	IRON PIN SET
2	581.45	730917.879	2260562.082	IRON PIN SET
3	584.27	730933.282	2261488.809	IRON PIN SET
4	578.39	730923.996	2260984.650	MAG NAIL SET
5	578.23	730878.600	2261774.820	MAG NAIL SET
6	578.85	730826.908	2261760.740	MAG NAIL SET
7	584.24	730891.326	2261031.383	MAG NAIL SET
20	-	730857.020	2259495.569	IRON PIN FOUND
21	-	730857.677	2259529.024	IRON PIN FOUND
22	-	731520.990	2259170.904	IRON PIN FOUND
23	-	730855.473	2261772.985	IRON PIPE FOUND
24	-	730855.838	2261371.211	IRON PIN FOUND
25	-	730875.100	2261358.903	IRON PIN FOUND
26	-	730875.173	2261081.909	IRON PIN FOUND



**LEGEND**

- SURVEY CONTROL / REFERENCE POINT SET
- EXISTING SURVEY MONUMENTATION FOUND
- CALCULATED LOCATION OF CENTERLINE OF STREET.

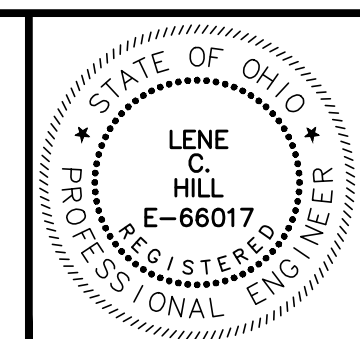


**REFERENCE TIES TO THE BENCHMARKS:**

- 5/8" IRON PIN SET WITH A RED "CT REF." CAP
  - 20' EAST OF EDGE OF PAVEMENT FOR ERIE RD.
  - 14' NORTH OF EDGE OF PLANT DRIVE
- 5/8" IRON PIN SET WITH A RED "CT REF." CAP
  - 22' WEST OF FENCE (AT GATE BY PLANT ENTRANCE)
  - 20' NORTH OF EDGE OF PLANT DRIVE
- 5/8" IRON PIN SET WITH A RED "CT REF." CAP
  - 28' EAST OF INLET BASIN (AT SOUTH EAST CORNER OF PLANT DRIVE)
  - 76' NORTH OF PROPERTY LINE FENCE
- MAG NAIL SET
  - 13' SOUTH OF HYDRANT

**EXISTING CONDITIONS NOTES:**

- THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY BE SUBJECT TO EASEMENTS AND OTHER RESTRICTIONS, EITHER RECORDED OR UNRECORDED. THE SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS, RECORD ENCUMBRANCES, RESTRICTIVE COVENANTS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
- ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
- THE PROJECT CONTROL COORDINATE SYSTEM IS BASED UPON THE FOLLOWING:
  - HORIZONTAL DATUM – PROJECT CONTROL COORDINATES FOR THIS PROJECT HAVE BEEN ESTABLISHED BY GPS/RTK OBSERVATIONS UTILIZING THE OHIO CO-ORDINATE SYSTEM OF 1983 (ZONE 3401-OHIO NORTH). OHIO STATE PLANE GRID COORDINATE VALUES ARE EXPRESSED IN UNITS OF U.S. SURVEY FEET "ON THE GRID" AND HAVE NOT BEEN ADJUSTED FOR USE "ON THE GROUND."
  - VERTICAL DATUM – NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE SURVEY AND STREET ALIGNMENTS SHOWN HEREON WERE OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR OTHER PURPOSES. THE PROPERTY LINES SHOWN HEREON OUR SUBJECT TO AN ACCURATE BOUNDARY SURVEY AND ARE BASED ON FOUND MONUMENTS LOCATED IN THE FIELD BEST FIT TO THE RECORDS.
- AN ALTA/ASCM SURVEY WAS NOT PERFORMED.
- EASEMENTS, RECORD RESTRICTIONS AND SETBACKS WERE NOT ADDRESSED DURING THIS SURVEY.
- ALL DIMENSIONS GIVEN ARE EXPRESSED IN US SURVEY FEET.
- THE BENCHMARK ELEVATIONS SHOWN IN THE PROJECT CONTROL TABLE ARE AT THE TOP OF THE RED CAP OF THE IRON PIN SET.
- IRON PINS SET ARE 5/8" IRON PINS SET WITH A RED CAP INSCRIBED WITH "CT REF"



NO	REVISION	DATE

**THE CITIES OF WILLOUGHBY & EASTLAKE  
WATER POLLUTION CONTROL CENTER  
WATERMAIN IMPROVEMENTS  
PART B  
LAKE COUNTY, OHIO**

SCALE: AS SHOWN
DATE: 04/22/2024
DESIGNED BY: BLM
DRAWN BY: BTZ
CHECKED BY: TJM

<b>SURVEY CONTROL</b>	
PROJECT NO: <b>23004301</b>	
DRAWING NAME <b>SC-01</b>	
SHEET <b>2</b>	OF <b>11</b>



**WATERMAIN NOTES**

WATER MAINS (3" THROUGH 36") SHALL BE PVC0 AND MANUFACTURED IN ACCORDANCE WITH AWWA C909. ALL PIPES, UNLESS OTHERWISE SPECIFIED, SHALL BE FURNISHED WITH PUSH-ON TYPE JOINTS, PROVIDED WITHIN THE LENGTHS NOTED ON THE DRAWING, AND BE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.

RESTRAINED PUSH-ON JOINTS SHALL BE COMPLETELY BOLTLESS; RESTRAINED MECHANICAL JOINTS SHALL BE MEGALUGS OR RETAINERS WITH A MAGE BONDING COATING SYSTEM AS MANUFACTURED BY EBAA IRON, INC., OR AS APPROVED, OF DUCTILE IRON AND WITH A WORKING PRESSURE OF AT LEAST 250 PSI AND A MINIMUM SAFETY FACTOR OF 2.1. MINIMUM LENGTH OF CUT PIECES OF WATER MAIN THAT MAY BE REUSED IS 5 LF.

FITTINGS SHALL BE DUCTILE IRON AND MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. ALL FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH MECHANICAL TYPE JOINTS IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.

ALL FITTINGS, BENDS, TEES, PLUGS, ETC. SHALL BE TIED TO THE WATER MAIN WITH EITHER M.J. TYPE CONNECTIONS, TIE RODS OR MEGA-LUGS. TIE RODS SHALL BE 3/4" DIAMETER STAINLESS STEEL. FOR 24" DIAMETER PIPE USE FOUR RODS.

FIRE HYDRANTS SHALL BE POST TYPE WITH A BREAKABLE FLANGE DESIGN. THE MAIN VALVE SHALL BE 5 1/4", OPENING LEFT WITH ONE 4 1/2" STEAMER/PUMPER NOZZLE AND TWO 2 1/2" HOSE NOZZLES, ALL WITH NATIONAL STANDARD THREADS UNLESS OTHERWISE SPECIFIED. THE OPENING NUT SHALL BE PENTAGONAL IN SHAPE. HYDRANTS SHALL HAVE A 6" MECHANICAL JOINT TYPE SHOE WITH A 5'-0" BURY DEPTH. HYDRANTS SHALL BE SHIPPED AND PAINTED AS DIRECTED BY THE CITY. NOTE - FIRE HYDRANT ASSEMBLIES SHALL CONSIST OF:

- MECHANICAL JOINT ANCHOR TEE
- 6" M.J. X M.J. GATE VALVE AND BOX
- 6" DUCTILE IRON PIPE (LENGTH VARIES)
- FIRE HYDRANT (SEE ABOVE)
- ALL NECESSARY APPURTENANCES
- 5 1/4" EXTENSION KIT (IF REQUIRED)

GATE VALVES SHALL BE IRON-BODY, RESILIENT-WEDGE GATE VALVES MEETING THE REQUIREMENTS OF AWWA C509 OR DIP BODY MEETING THE REQUIREMENT OF C515. VALVES SHALL BE DESIGNED FOR A WORKING WATER PRESSURE OF 200 PSI, SHALL BE OF THE NON-RISING STEM TYPE WITH STANDARD AWWA NUT, AND SHALL OPEN IN THE DIRECTION CHOSEN BY THE MUNICIPALITY. STEM SEALS SHALL CONSIST OF AT LEAST TWO O-RINGS. ENDS SHALL BE MECHANICAL JOINT.

BUTTERFLY VALVES SHALL BE OF THE SIZE SHOWN ON THE PLANS AND MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF ANSI/AWWA C-504 WITH A MAXIMUM WORKING PRESSURE OF 250 PSIG. THE VALVE SHALL HAVE A DUCTILE IRON BODY CONFORMING TO ASTM A-536 WITH MECHANICAL JOINT ENDS. ALL EXTERIOR SURFACES SHALL HAVE AN EPOXY COATING WHICH COMPLIES WITH AWWA C-550. THE ACTUATOR SHALL BE MANUALLY OPERATED WITH A 2" SQUARE NUT, WHICH OPENS COUNTER CLOCKWISE (LEFT).

VALVE BOXES SHALL BE CAST IRON, SHALL BE COATED WITH A BITUMASTIC PAINT, SHALL BE OF THE THREE PIECE SCREW TYPE, SHALL HAVE A 5-1/4 INCH SHAFT, HEAVY DUTY TOP SECTION, AND SHALL BE PROVIDED WITH A SLOTTED HEAVY, NEAT-FITTING COVER HAVING THE WORD "WATER" CAST ON TOP. THE BASE OF THE VALVE BOX SHALL COVER THE ENTIRE BONNET SECTION OF THE VALVE. THE THREE PIECE VALVE BOX SHALL HAVE SUFFICIENT LENGTH, SUCH THAT WHEN INSTALLED, THE TOP OF THE COVER SHALL BE FLUSH WITH THE SURROUNDING SURFACE WITH EACH SECTION PROPERLY ENGAGED.

TAPPING SLEEVES SHALL HAVE A STAINLESS STEEL BODY WITH A DUCTILE IRON FLANGED OUTLET WHICH COMPLIES WITH ANSI B16.1, CLASS 125 AND WITH MSS SP-60. THE GASKET SHALL COMPLETELY SURROUND THE INSIDE OF THE STAINLESS STEEL BODY. THE SLEEVE SHALL COME EQUIPPED WITH A 3/4" NPT BRASS TEST PLUG. MAXIMUM WORKING PRESSURE FOR 4" - 12" SIZES (250 PSIG) AND FOR 14" - 24" SIZES (200 PSIG). TAPPING VALVES SHALL MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF ANSI/AWWA C509. THE INLET FLANGE SHALL COMPLY WITH ANSI B16.1, CLASS 125 DRILLING. THE MECHANICAL JOINT OUTLET SHALL COMPLY WITH ANSI/AWWA C111. THE VALVE SHALL HAVE A NON-RISING STEM (NRS). THE OPERATING NUT SHALL BE 2" SQUARE, WHICH OPENS TO THE LEFT. VALVES SHALL COME EQUIPPED WITH A DOUBLE O-RING SEAL STUFFING BOX AND HAVE AN EPOXY COATING ON ALL EXTERIOR SURFACES WHICH COMPLIES WITH AWWA C550.

BLOW-OFF HYDRANT ASSEMBLIES SHALL BE ECLIPSE MODEL NO. 85, AS MANUFACTURED BY THE KUPFERLE FOUNDRY COMPANY (1-800-231-3990), OR APPROVED EQUAL. ASSEMBLIES SHALL BE SELF-DRAINING, NON-FREEZING, COMPRESSION TYPE WITH 2-3/16" MAIN VALVE OPENING. THE INLET CONNECTION SHALL BE 2"IP. THE OUTLET SIZE SHALL BE 2-1/2" NST. HYDRANT SHALL HAVE A CAST IRON BOX, LOCKING LID, AND 3" DUCTILE IRON RISER PIPE. THE INTERIOR OPERATING PARTS SHALL BE BRASS AND BE REMOVABLE FROM THE HYDRANT FOR SERVICING WITHOUT EXCAVATING THE HYDRANT. THE ASSEMBLY SHALL BE SET IN A MINIMUM FOUR (4) CUBIC FEET OF #57 WASHED STONE. THE DEPTH OF BURY SHALL BE 5'-6". THE TOP OF THE ASSEMBLY SHALL BE FLUSH WITH THE FINAL GRADE OF THE ADJACENT GROUND.

WATER SERVICE PIPE, 2" OR LESS, SHALL BE AS NOTED ON PLANS AND SPECIFICATIONS. SIZE SHALL BE AS NOTED ON THE PLANS (1" MINIMUM). ALL PIPES SHALL HAVE FLARE ENDS IN THE ROW. MINIMUM COVER OVER THE PIPE SHALL BE FOUR (4) FEET - SIX (6) INCHES UNLESS OTHERWISE NOTED ON THE DRAWINGS.

CORPORATION STOPS SHALL BE A BALL VALVE DESIGN, CAST FROM BRASS ALLOY, CONFORMING TO ANSI/AWWA C800. INLET END SHALL HAVE AWWA TAPER THREADS; OUTLET END SHALL HAVE A COPPER FLARE QUARTER BEND CONNECTION. ALL WATER SERVICE TAPS, 2" OR LESS SHALL BE TAPPED ON TOP OF THE WATER MAIN. THE CORPORATION STOPS AND QUARTER BEND SHALL BE BLOCKED.

CURB VALVES (STOPS) SHALL BE A ONE PIECE DESIGN, CAST FROM A BRASS ALLOY, CONFORMING TO ANSI/AWWA C800, HAVE A MAXIMUM WORKING PRESSURE OF 175 PSIG, AND HAVE A QUARTER TURN CHECK. BOTH ENDS SHALL HAVE COPPER FLARE FITTINGS. CURB VALVES SHALL BE BURIED TO A MINIMUM DEPTH OF 4 FEET AND A MAXIMUM DEPTH OF 5 FEET.

CURB BOXES SHALL BE CAST IRON, TWO PIECE SCREW TYPE, ADJUSTABLE TO A TOTAL HEIGHT BETWEEN 48 INCHES TO 60 INCHES. LIDS SHALL BE CAST IRON WITH THE WORD "WATER" CAST INTO THE TOP. LIDS SHALL BE SECURED WITH ONE BRASS PENTAGONAL HEAD SCREW. ALL BOXES SHALL BE LOCATED WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER.

IF LEAD SERVICES ARE ENCOUNTERED PLEASE NOTIFY LCDU.

SERVICE FITTINGS TO CONNECT TO EXISTING WATER SERVICES WHICH ARE NOT 1" DIAMETER COPPER SHALL BE A MUELLER H-15425, SMITHBLAIR 525, OR EQUAL. BEFORE TESTING THE WATER MAIN, THE SYSTEM SHALL BE FLUSHED ACCORDING TO THE MOST CURRENT PROCEDURES SET FORTH BY THE OWNER WATER DEPT. CALL THE OWNER FOR THE MOST RECENT PROCEDURES. ALL LEAKS SHALL BE LOCATED AND REPAIRED BY THE CONTRACTOR. ALL WATER SAMPLES SHALL BE OBTAINED AND TESTED BY THE OWNER.

WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA C600. ALL TEST RESULTS MUST BE APPROVED BY THE OWNER BEFORE INSTALLATION OF WATER SERVICES. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN. TEST PRESSURE SHALL BE 150 PSI.

WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN.

THE PROPOSED WATER SYSTEM SHALL MAINTAIN A MINIMUM STATIC PRESSURE OF 35PSI DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING STORM SEWERS, WHEN POSSIBLE, AS MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE UNLESS NOTED ON THE PLAN AND PROFILE SHEETS.

THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING SANITARY SEWERS, WHEN POSSIBLE, FROM OUTSIDE EDGE TO OUTSIDE EDGE.

THE CONTRACTOR SHALL NOT OPERATE OR TURN ANY EXISTING WATER VALVE. IF VALVES NEED TO BE OPENED OR CLOSED HE SHALL NOTIFY THE OWNER.

ALL ROUGH GRADING TO WITHIN SIX (6) INCHES OF FINISH GRADE SHALL BE COMPLETED OVER THE PROPOSED WATER MAIN PRIOR TO IT'S INSTALLATION.

THE LOCATION OF EXISTING WATER UTILITIES AS SHOWN ON THESE PLANS WERE DETERMINED FROM AVAILABLE DATA AT THE TIME OF FIELD SURVEYING IN ACCORDANCE WITH SECTION 153.63 OF THE OHIO REVISED CODE.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, PAYING ALL FEES, AND FOLLOWING ALL REQUIREMENTS ASSOCIATED WITH THE PERMITS. THE OWNER ASSUMES NO LIABILITY FOR NOT FOLLOWING THE ABOVE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OHIO UTILITY PROTECTION SERVICE (OUPS) AS REQUIRED BY LAW.

NO WATERLINE TIE-INS SHALL BE DONE ON FRIDAYS OR THE DAY BEFORE A CITY HOLIDAY.

DEFLECT WATER MAIN AS REQUIRED TO MAINTAIN ALIGNMENT AS SHOWN ON PLANS. MAXIMUM DEFLECTION IS 15 DEGREES PER JOINT.

TEMPORARY BLOW-OFF AND FLUSHING ASSEMBLY:

- PIPE SHALL BE TYPE K COPPER WITH COMPRESSION FITTINGS.
- CORPORATION STOPS SHALL BE GROUND KEY DESIGN, CAST FROM A BRASS ALLOY AND CONFORM TO AWWA C800. INLET END SHALL HAVE AWWA TAPER THREADS. OUTLET END SHALL HAVE COPPER FLARE QUARTER BEND CONNECTION. ALL TAPS SHALL BE MADE ON TOP OF THE WATER MAIN. CORPORATION STOPS AND QUARTER BENDS SHALL BE BLOCKED.
- CURB VALVES (STOPS) SHALL BE ONE PIECE DESIGN, CAST FROM A BRASS ALLOY, CONFORM TO AWWA C800, HAVE A MAXIMUM WORKING PRESSURE OF 175 PSIG AND HAVE A QUARTER TURN CHECK. BOTH ENDS SHALL HAVE COPPER FLARE FITTINGS.
- LOCATIONS SHALL BE AS SHOWN ON THE DRAWINGS, AT A MINIMUM. CONTRACTOR SHALL INSTALL ADDITIONAL ASSEMBLIES AS NEEDED TO EXHAUST AIR AND TO COMPLY WITH REGULATIONS REGARDING PRESSURE TESTING, BACTERIA SAMPLING AND FLUSHING.
- AT COMPLETION OF TESTING, CLOSE CORPORATION STOP, REMOVE COPPER PIPING AND INSERT PLUG ON CORPORATION STOP.
- NO SEPARATE PAYMENT SHALL BE MADE FOR TEMPORARY BLOW-OFFS AND FLUSHING ASSEMBLIES.

INSTALL COPPER CLAD STEEL (CCS) TRACE WIRE AND ACCESS/TERMINATION BOXES OVER WATER MAIN PER SPECIFICATIONS.

**GEOTECHNICAL INVESTIGATION**

THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY CT CONSULTANTS, INC. DATED FEBRUARY 5, 2024, AND ANY SUBSEQUENT REVISIONS. A COPY OF THIS REPORT WILL BE MADE AVAILABLE TO THE CONTRACTOR IN THE BID DOCUMENTS. THE CONTRACTOR SHALL ADHERE TO ALL ASPECTS AND RECOMMENDATIONS OF THE REPORT.

**CONTACT INFORMATION**

TRAILER PARK CONTACT INFORMATION:

JONES ESTATES LLC  
2310 S MIAMI BLVD SUITE 238  
DURHAM, NC 27703  
919-666-7025

**CONTINGENCY ITEMS**

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER DISCRETION SHALL BE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE PROPOSAL FOR BOTH PART A AND PART B TO BE USED AS DIRECTED BY THE ENGINEER.

EXCAVATION OF SUBGRADE AND EMBANKMENT WITH GRANULAR MATERIAL, CCS, AS PER PLAN, CONTINGENCY, AS DIRECTED	80 CY
PAVEMENT REPAIR, AS PER PLAN	150 SY



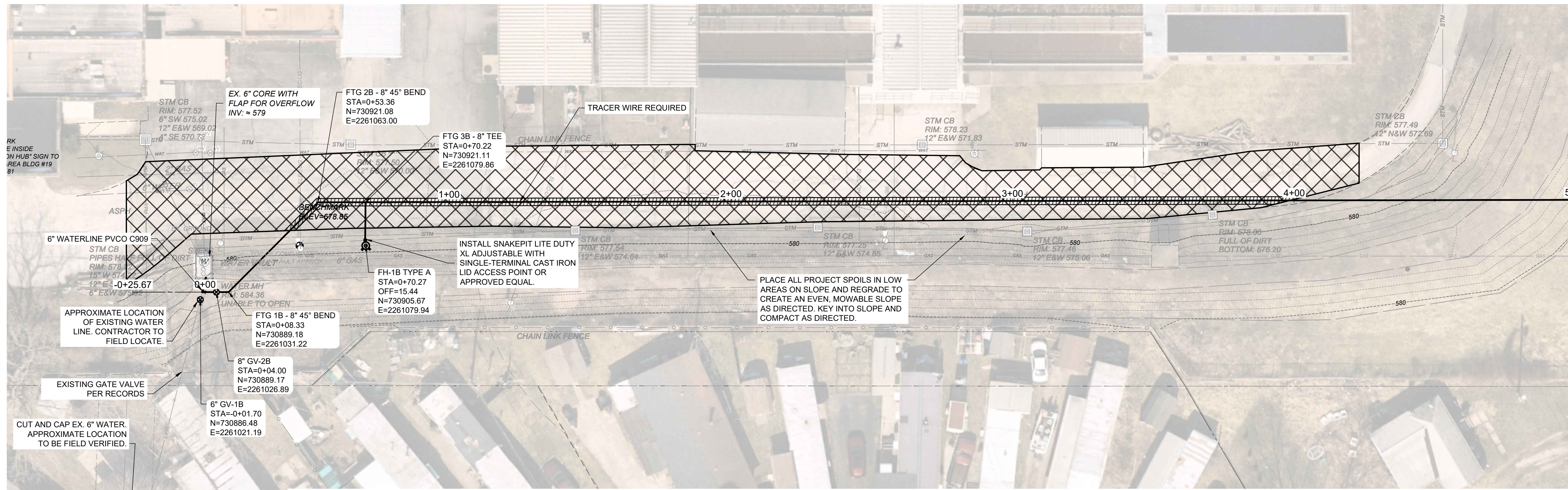
NO	REVISION	DATE

**THE CITIES OF WILLOUGHBY & EASTLAKE**  
**WATER POLLUTION CONTROL CENTER**  
**WATERMAIN IMPROVEMENTS**  
**PART B**  
**LAKE COUNTY, OHIO**

SCALE:	AS SHOWN
DATE:	04/22/2024
DESIGNED BY:	BLM
DRAWN BY:	BTZ
CHECKED BY:	TJM

**GENERAL NOTES - 2**

PROJECT NO:	
23004301	
DRAWING NAME	
GN-02	
SHEET	OF
4	11



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20' 10' 0' 20'

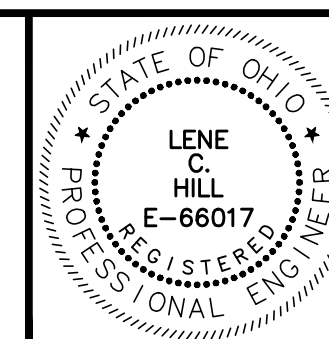
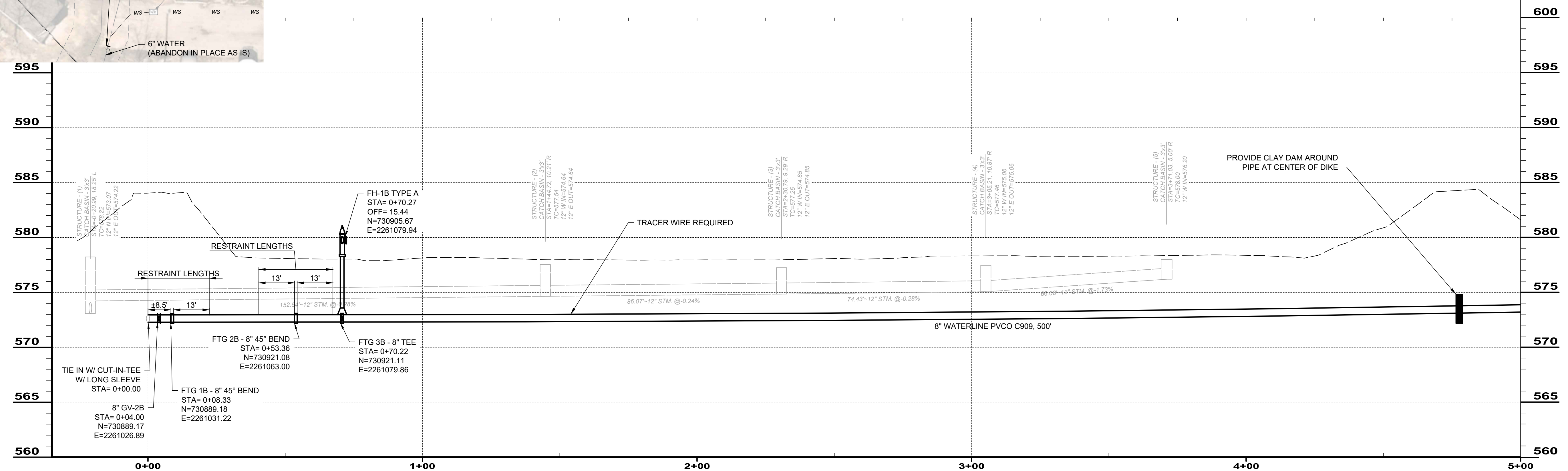
BAR SCALE

LEGEND

2.5" PAVEMENT PLANING  
1.5" INTERMEDIATE COURSE, TYPE 1  
1" SURFACE COURSE, TYPE 1

TYPE C PAVEMENT REPLACEMENT

MATCHLINE STA. 5+00



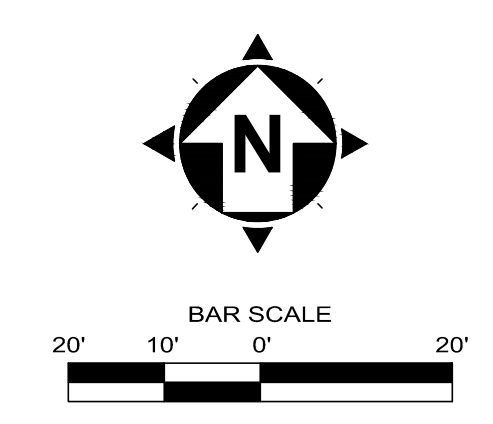
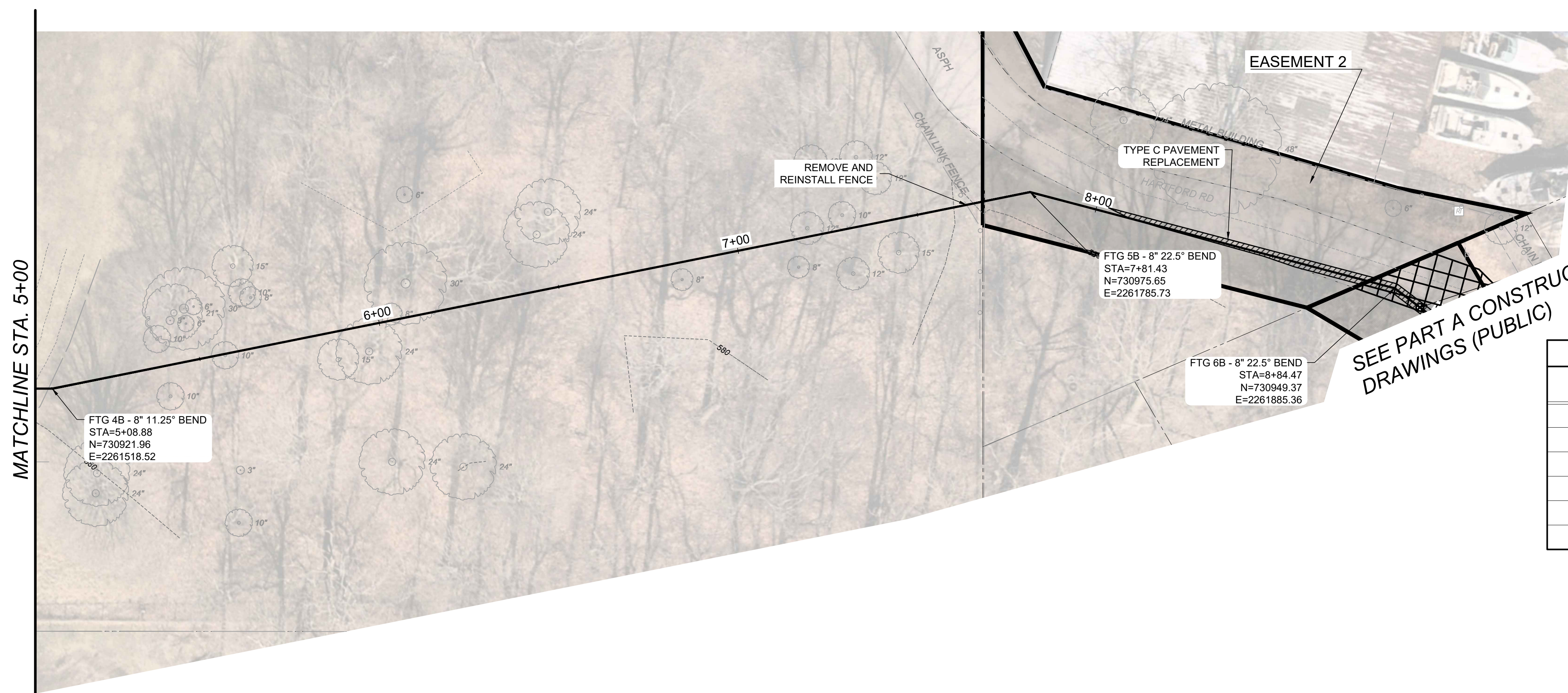
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WATER POLLUTION CONTROL CENTER  
WATERMAIN IMPROVEMENTS  
PART B  
LAKE COUNTY, OHIO**

SCALE: AS SHOWN  
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**PLAN & PROFILE STA 0+00 TO  
5+00**

PROJECT NO: <b>23004301</b>	
DRAWING NAME <b>PP-01</b>	
SHEET <b>5</b>	OF <b>11</b>



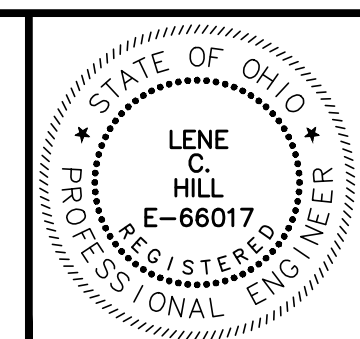
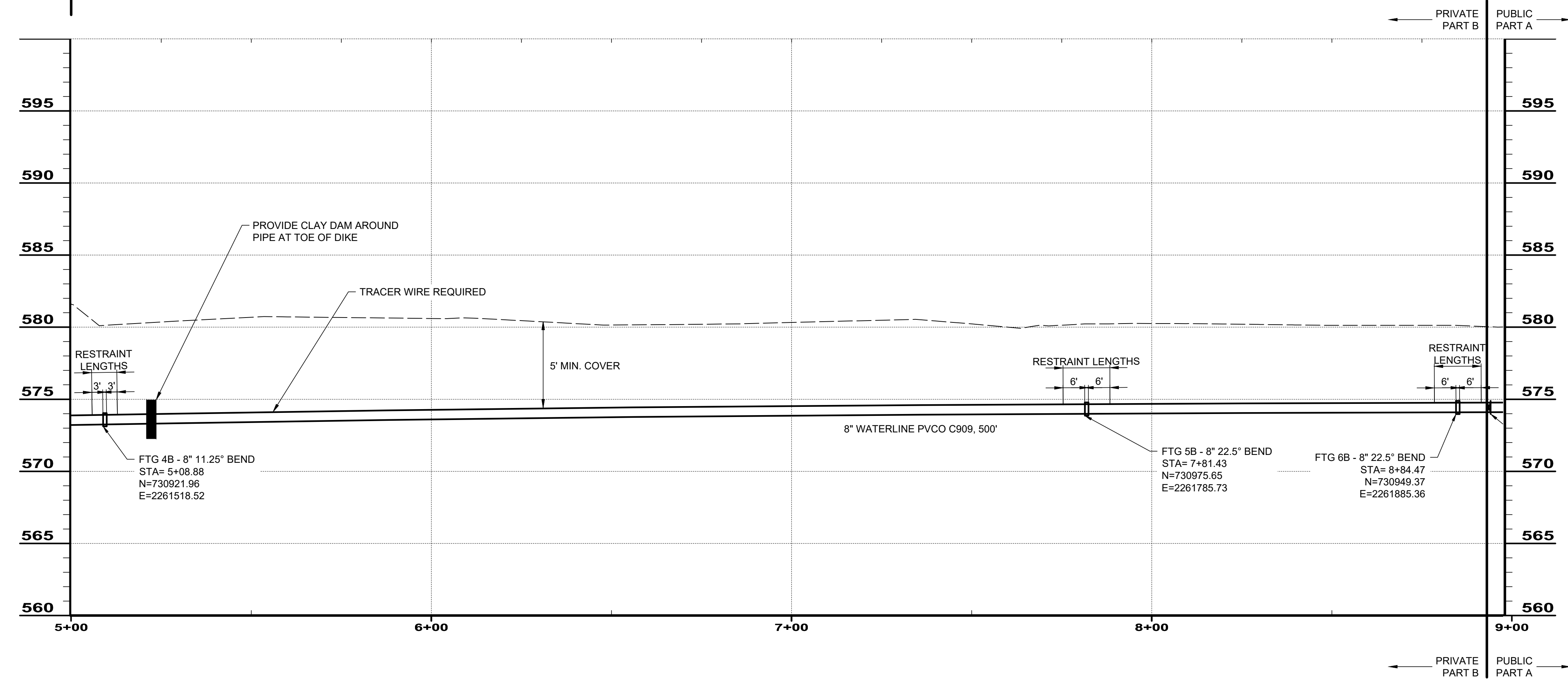
**NOTE:**  
 CONTRACTOR SHALL CONSTRUCT, TEST, AND OBTAIN APPROVAL FROM LAKE COUNTY UTILITIES DEPARTMENT AND LAKE COUNTY COMMISSIONERS FOR THE PUBLIC WATERLINE IN PART A PRIOR TO BEGINNING CONSTRUCTION ON THE PRIVATE WATERLINE IN PART B. DOWNTIME AND DELAYS FOR TESTING AND APPROVALS OF THE PART A WATERLINE SHALL BE INCLUDED IN THE LINE ITEM COST FOR THE WATERLINE.

**SEE PART A CONSTRUCTION DRAWINGS (PUBLIC)**

WATERLINE FITTING TABLE				
No.	DESCRIPTION	STA.	NORTHING	EASTING
FTG-1B	8" 45° BEND	0+08.33	730889.18	2261031.22
FTG-2B	8" 45° BEND	0+53.36	730921.08	2261063.00
FTG-3B	8" X 6" TEE	0+70.22	730921.11	2261079.86
FTG-4B	8" 11.25° BEND	5+08.88	730921.96	2261518.52
FTG-5B	8" 22.5° BEND	7+81.43	730975.65	2261785.73
FTG-6B	8" 22.5° BEND	8+84.47	730949.37	2261885.36

WATERLINE APPURTENANCE TABLE					
No.	DESCRIPTION	STA.	OFFSE T	NORTHIN G	EASTING
FH-1B	TYPE A HYDRANT	0+70.27	15.44	730905.67	2261079.94
GV-1B	6" GATE VALVE	-0+01.70	NA	730886.48	2261021.19
GV-2B	8" GATE VAVLE	0+04.00	N/A	730889.17	2261026.89

LEGEND	
	2.5" PAVEMENT PLANING 1.5" INTERMEDIATE COURSE, TYPE 1 1" SURFACE COURSE, TYPE 1
	TYPE C PAVEMENT REPLACEMENT



NO	REVISION	DATE

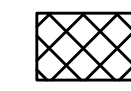
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 CHECKED BY: TJM

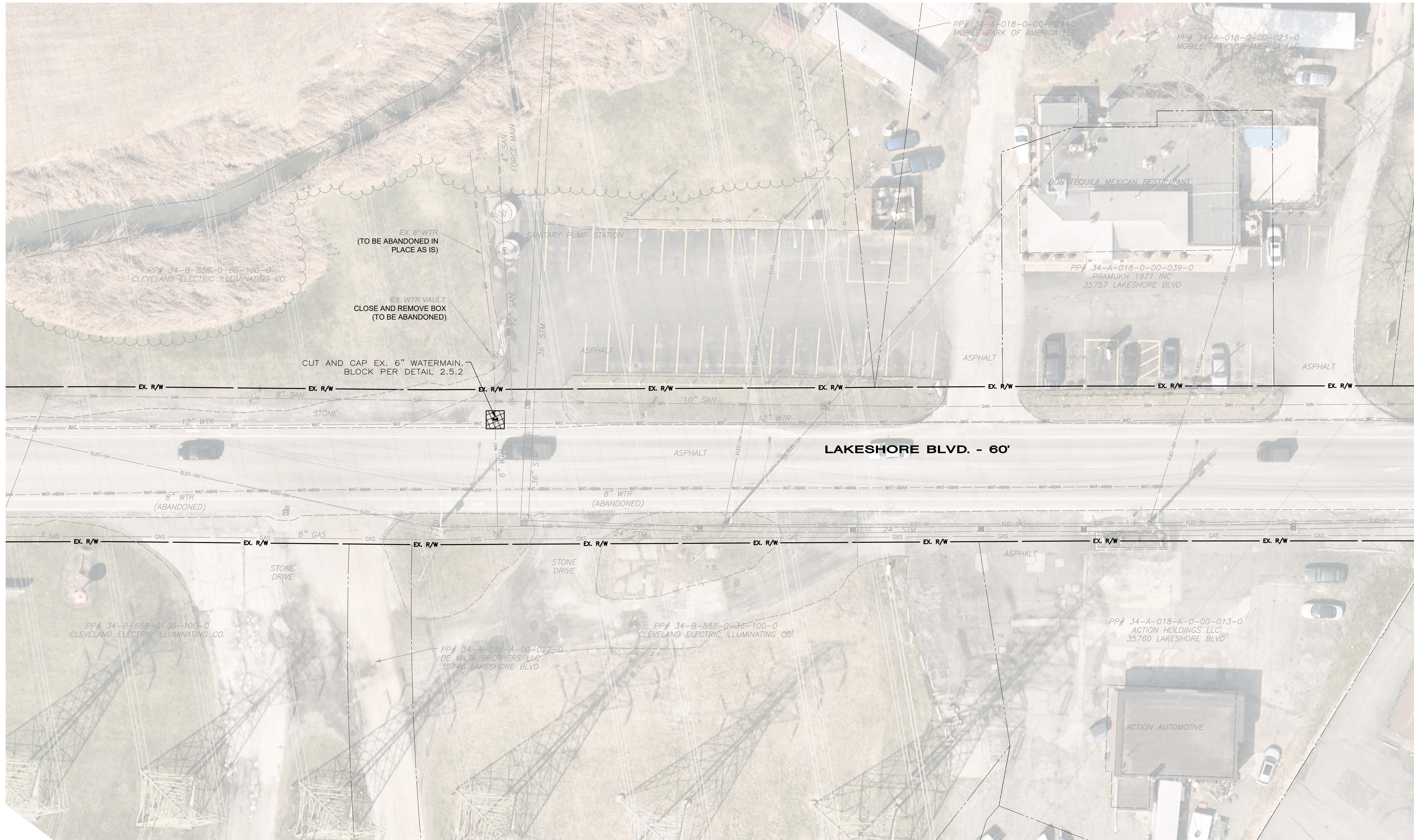
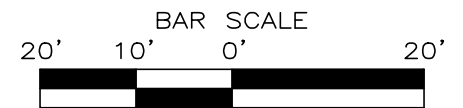
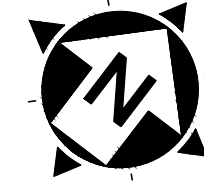
**PLAN & PROFILE STA 5+00 TO  
 8+90**

PROJECT NO: <b>23004301</b>	
DRAWING NAME <b>PP-02</b>	
SHEET <b>6</b>	OF <b>11</b>

**LEGEND**



TYPE C PAVEMENT  
REPLACEMENT  
(SEE DETAIL)



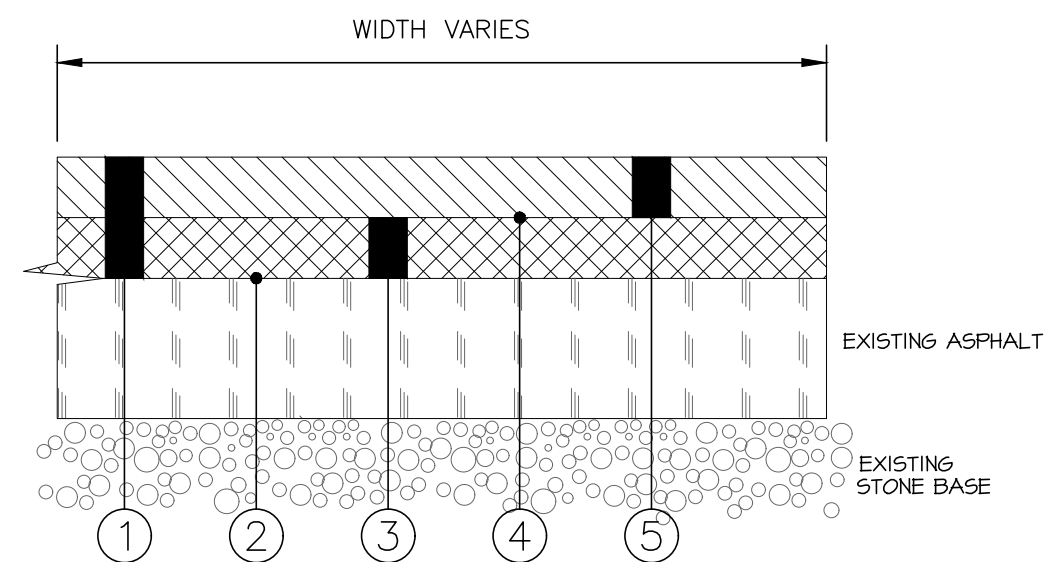
NO	REVISION	DATE

**THE CITIES OF WILLOUGHBY & EASTLAKE**  
**WATER POLLUTION CONTROL CENTER**  
**WATERMAIN IMPROVEMENTS**  
**PART B**  
**LAKE COUNTY, OHIO**

<b>SCALE:</b>	
<b>DATE:</b>	04/22/2024
<b>DESIGNED BY:</b>	
<b>DRAWN BY:</b>	
<b>CHECKED BY:</b>	

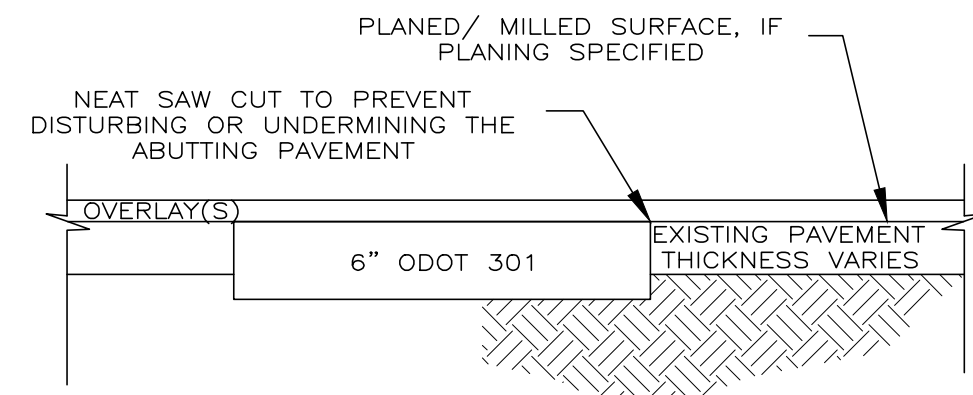
**SERVICE LINE CUT AND CAP**  
**AT LAKESHORE BLVD**

<b>PROJECT NO:</b>	
23004301	
<b>DRAWING NAME</b>	
PP-03	
<b>SHEET</b>	<b>OF</b>
7	11



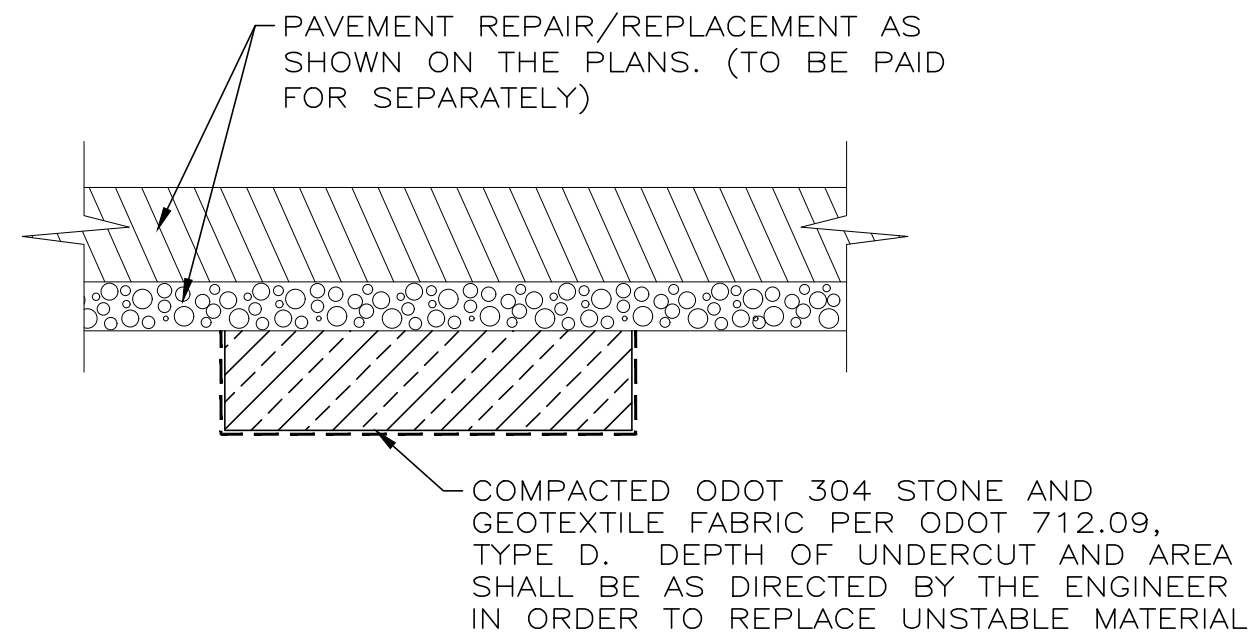
- ① 2.5" PAVEMENT PLANING
- ② ODOT ITEM 407 - TACK COAT, TRACKLESS (0.09 GAL/SY)
- ③ 1.5" ODOT ITEM 441 - ASPHALT INTERMEDIATE COURSE, TYPE 1 (448), PG64-22 (MAX 25% RAP)
- ④ ODOT ITEM 407 - TACK COAT, TRACKLESS (0.06 GAL/SY)
- ⑤ 1" ODOT ITEM 441 - ASPHALT SURFACE COURSE, TYPE 1 (448), PG64-22 (0% RAP)

**PAVEMENT RESURFACING DETAIL**



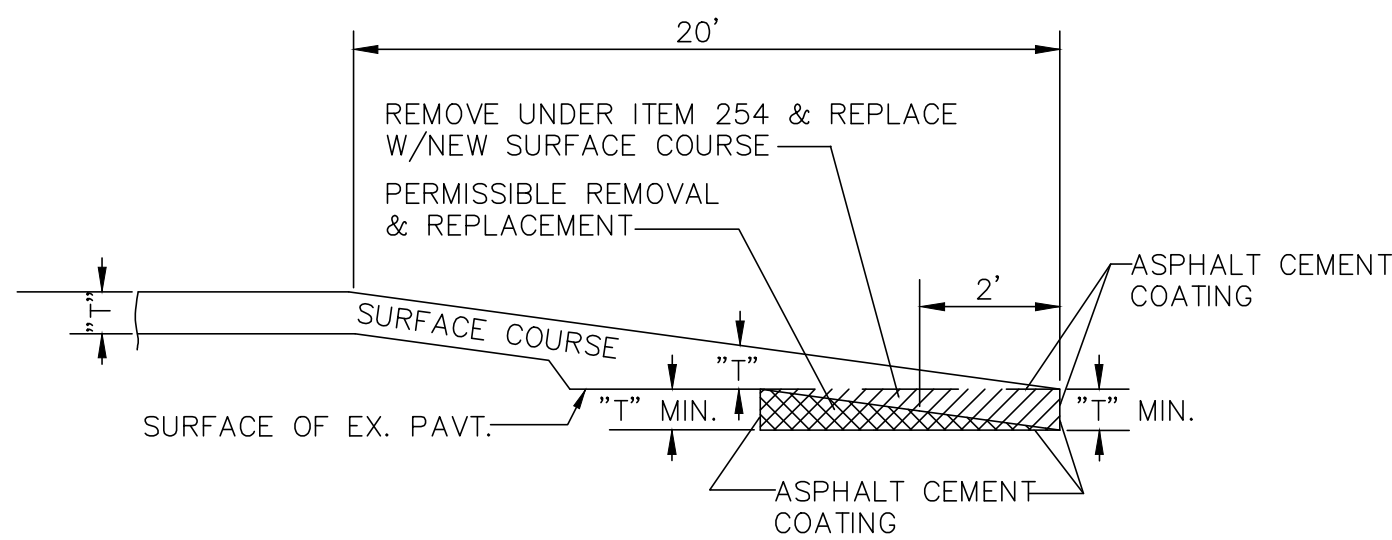
**PAVEMENT REPAIR DETAIL (ITEM 253)**

NOTE: ITEM SHALL BE USED AS DIRECTED

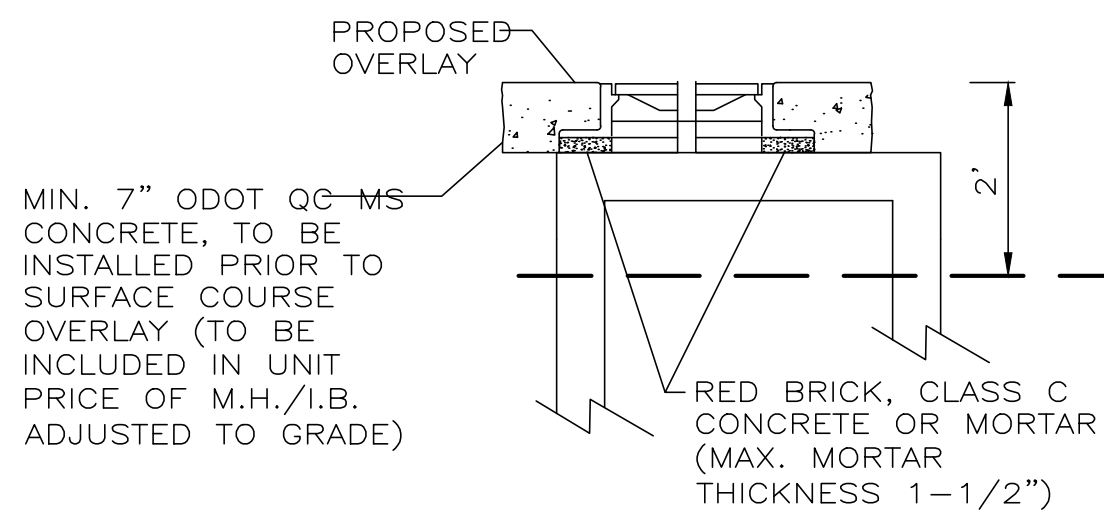


**ADDITIONAL SUBGRADE REPLACEMENT DETAIL (ITEM 204)**

NOTE: ITEM SHALL BE USED AS DIRECTED



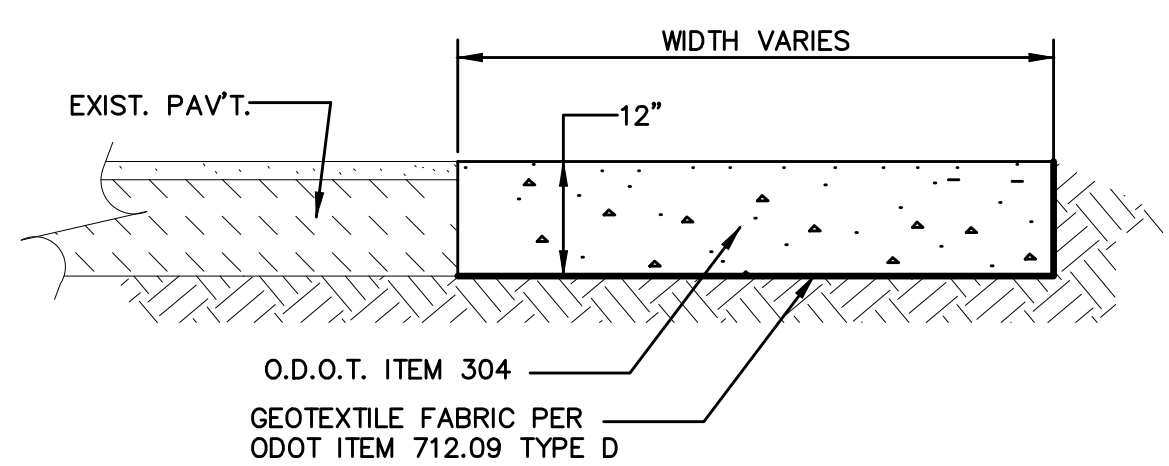
**BUTT JOINT DETAIL**



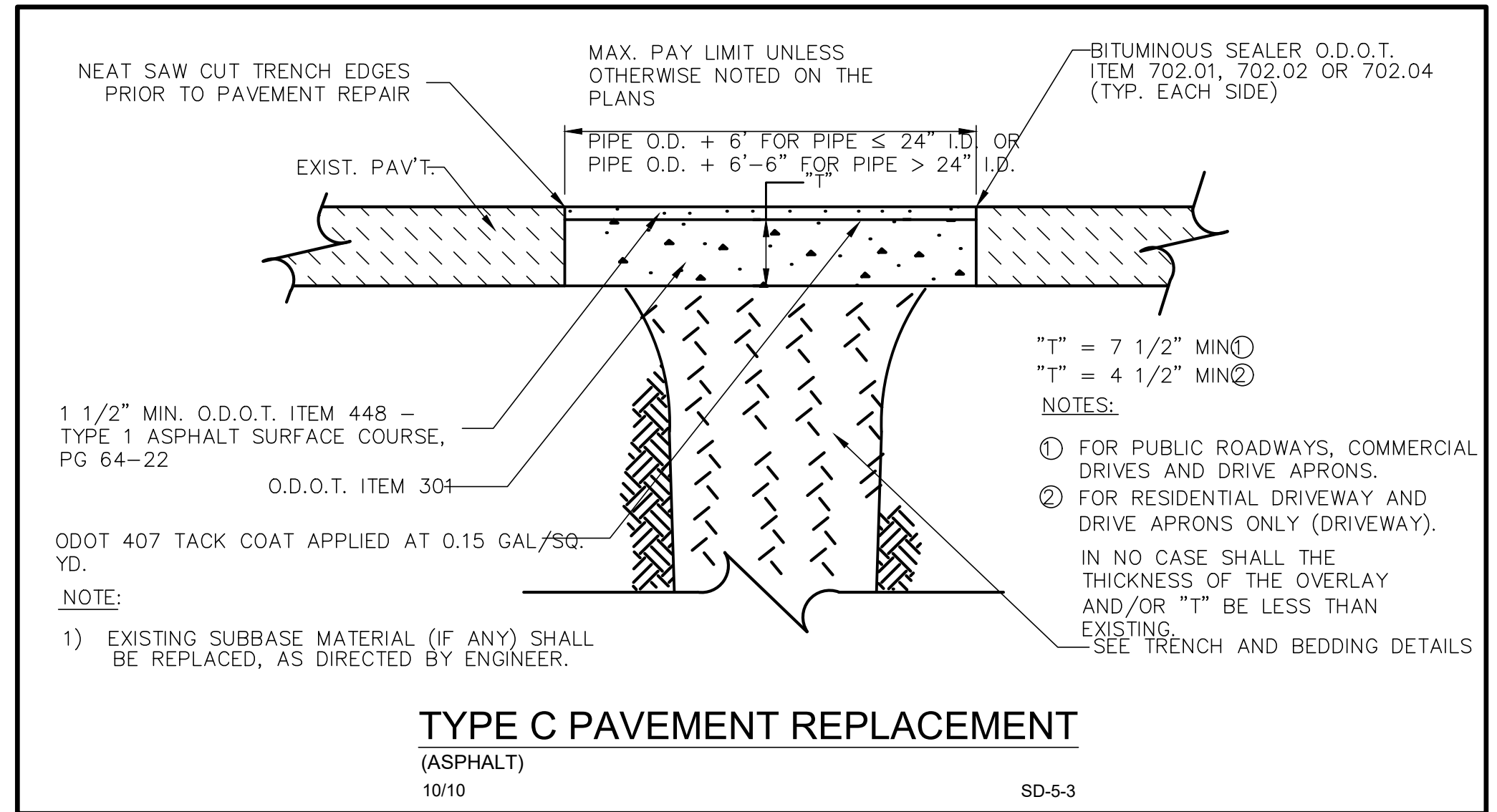
**M.H./I.B. ADJUSTED TO GRADE**

WORK SHALL INCLUDE RECONSTRUCTION OF MANHOLE/BASIN FOR UP TO 2' FROM PROPOSED RIM ELEVATION OR GUTTER GRADE ELEVATION

RECONSTRUCTION OF MANHOLE/BASIN BELOW 2' FROM PROPOSED RIM ELEVATION OR GUTTER GRADE ELEVATION SHALL BE PAID FOR UNDER MANHOLE/BASIN RECONSTRUCTED TO GRADE



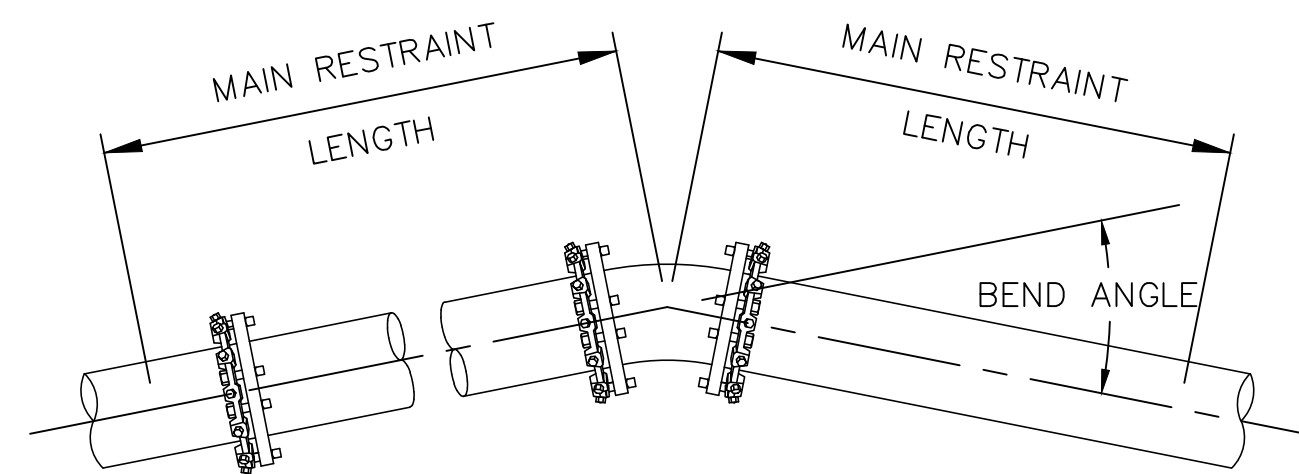
**TEMPORARY PAVEMENT**



**TYPE C PAVEMENT REPLACEMENT (ASPHALT)**

10/10

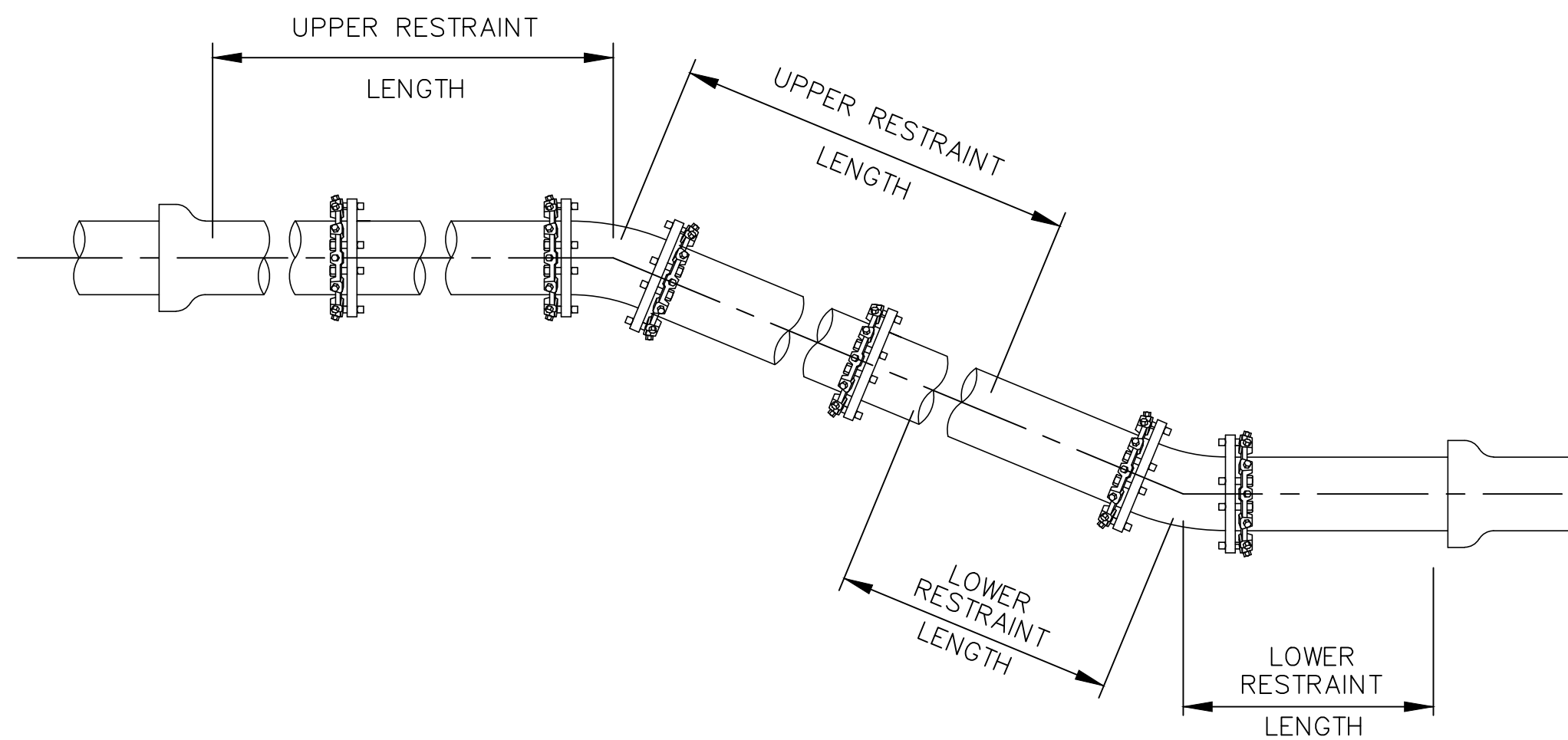
SD-5-3



**TYPICAL HORIZONTAL BEND RESTRAINT**

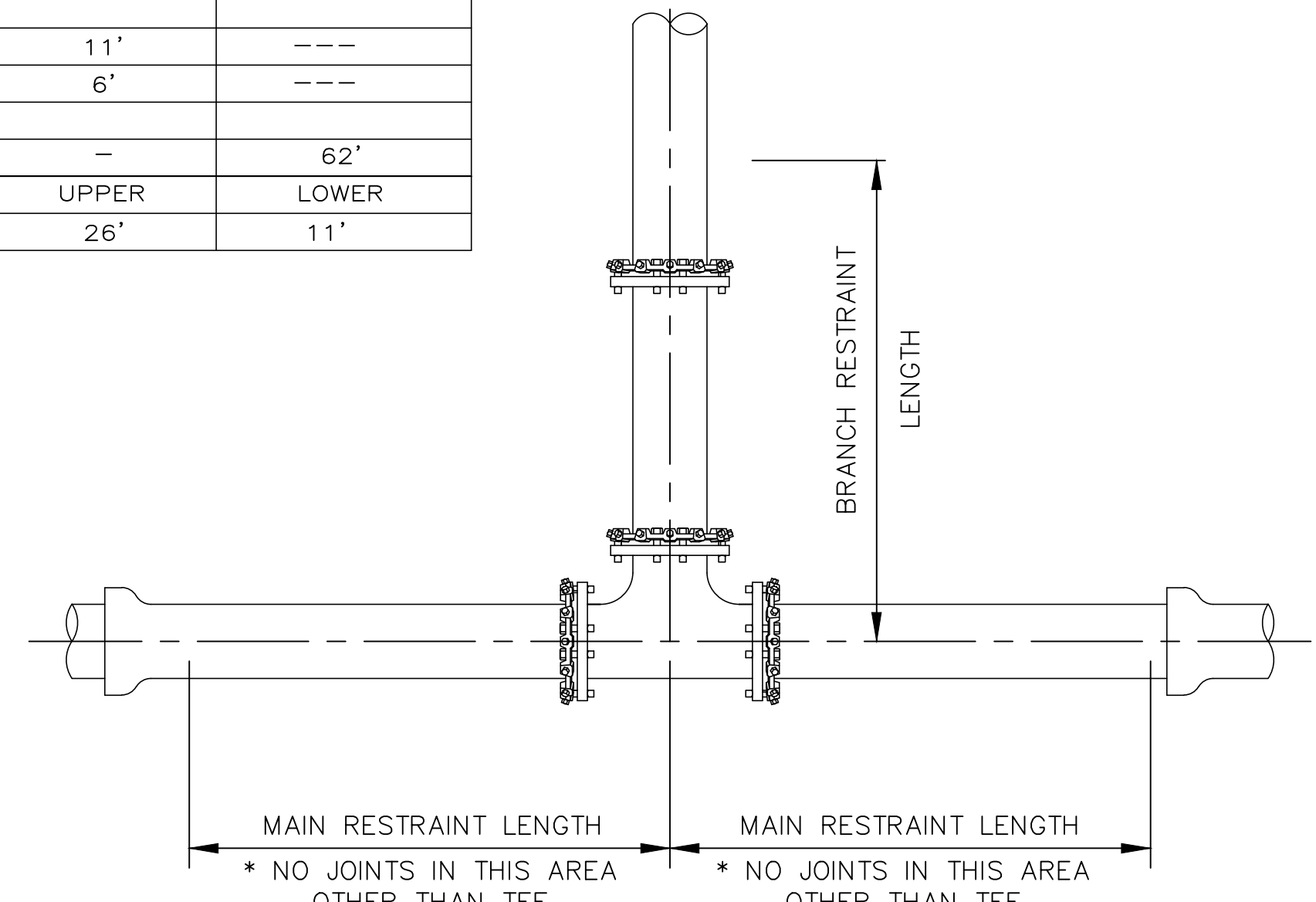
NOT TO SCALE

THRUST RESTRAINT TABLE FOR STANDARD FITTINGS			
FITTING	SIZE	MINIMUM MAIN RESTRAINT LENGTH	MINIMUM BRANCH RESTRAINT LENGTH
HORIZONTAL FITTINGS			
45° BEND	8"	11'	---
11.25° & 22.5° BEND	8"	6'	---
TEE	12"x8"	---	62'
VERTICAL FITTINGS		UPPER	LOWER
45°	8"	26'	11'



**TYPICAL VERTICAL BEND RESTRAINT**

NOT TO SCALE



**TYPICAL HORIZONTAL TEE RESTRAINT**

NOT TO SCALE



NO	REVISION	DATE

THE CITIES OF WILLOUGHBY & EASTLAKE  
**WATER POLLUTION CONTROL CENTER  
 WATERMAIN IMPROVEMENTS  
 PART B  
 LAKE COUNTY, OHIO**

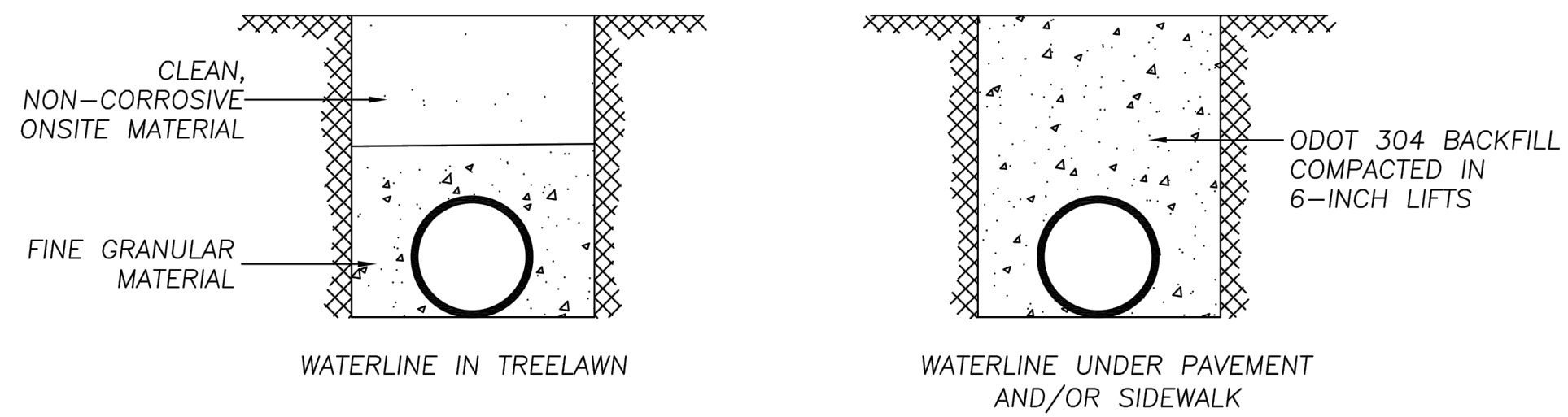
SCALE: AS SHOWN  
 DATE: 04/22/2024  
 DESIGNED BY: BLM  
 DRAWN BY: BTZ  
 CHECKED BY: TJM

**DETAILS**

PROJECT NO: <b>23004301</b>	
DRAWING NAME <b>DT-01</b>	
SHEET <b>8</b>	OF <b>11</b>



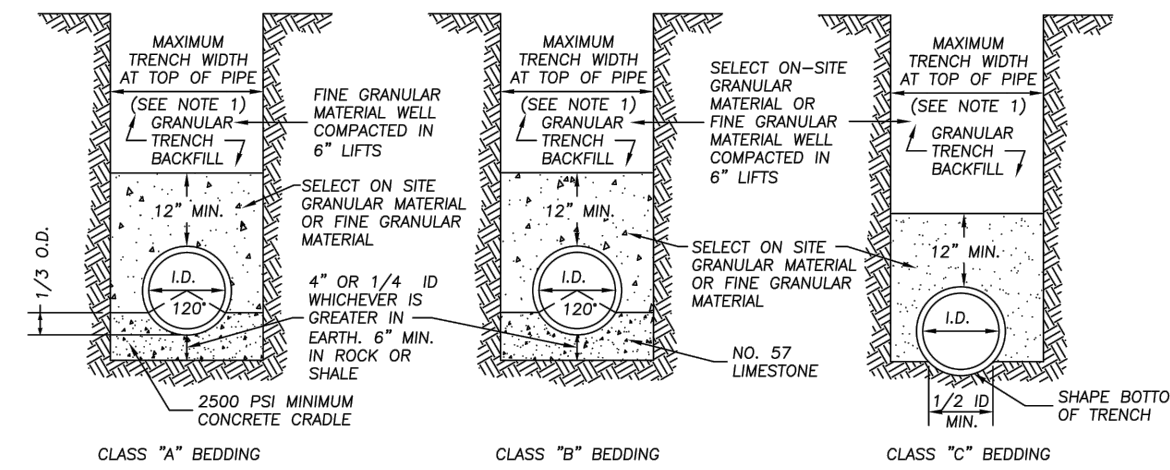
FOR C909 PVC WATERLINE ONLY



- NOTES:
1. RECYCLED MATERIAL SHALL NOT BE USED. ALL VALVES, HYDRANTS, HYDRANT VALVES SHALL BE BACKFILLED WITH 57 LIMESTONE.
  2. FINE GRANULAR MATERIAL SHALL HAVE NO ROUGHS BIGGER THAN 1-INCH TO 2-INCH IN DIAMETER.
  3. ON-SITE GRANULAR MATERIAL REQUIRED, OTHERWISE PROVIDE SAND (ODOT 703) OR ODOT 304.

FIG 2.22.2

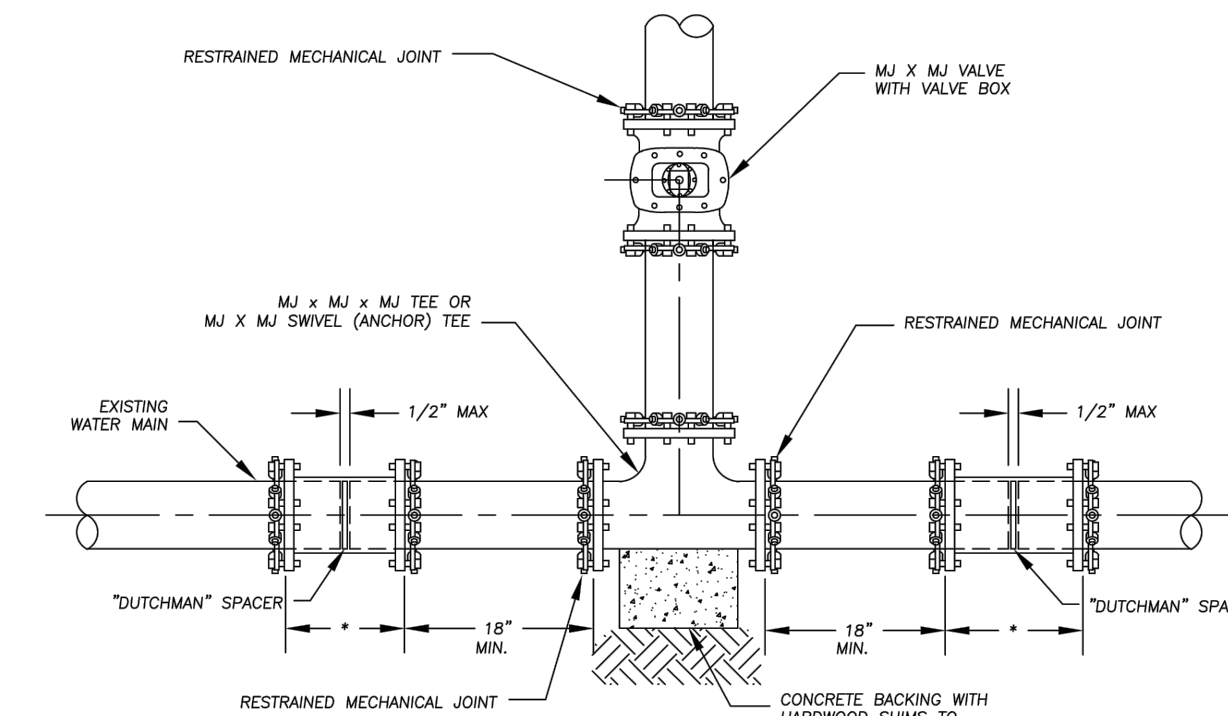
LAKE COUNTY  
DEPARTMENT OF UTILITIES  
FLEXIBLE TRENCH AND BEDDING  
DATE: 10-2020 DRAWN BY: SC SCALE: NONE



- NOTES:
1. MAXIMUM TRENCH WIDTH AT TOP OF PIPE SHALL BE O.D. +24" FOR ALL PIPE SIZES UP TO AND INCLUDING 24" I.D. AND O.D. +30" FOR PIPE LARGER THAN 24" I.D.
  2. GRANULAR TRENCH PIPE BACKFILL UNDER PAVEMENT AND STRUCTURES SHALL BE ODOT 304 LIMESTONE COMPACTED TO TOP OF TRENCH. SEE SECTION 1.24 FOR COMPACTION REQUIREMENTS. THE BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 3- FEET BEYOND EACH EDGE OF PAVEMENT OR STRUCTURE. IN AREAS OUTSIDE OF PAVEMENT, SELECT ON-SITE GRANULAR MATERIAL APPROVED BY LAKE COUNTY SANITARY ENGINEERS MAY BE USED IN LIFTS NOT TO EXCEED 6-INCHES FOR PIPE BACKFILL ABOVE BEDDING.
  3. ALL BEDDING SHALL BE CLASS "C" UNLESS OTHERWISE NOTED ON THE PLANS OR REQUIRED BY THE SANITARY ENGINEER.
  4. SLAG SHALL NOT BE USED FOR BEDDING OR BACKFILL.
  5. RECYCLED CONCRETE SHALL NOT BE USED.
  6. CLAY DAMS SHALL BE REQUIRED WHEN AND WHERE NECESSARY PER THE SOLE DISCRETION OF THE LCDU.
  7. THESE SPECIFICATIONS ARE TO BE CONSIDERED MINIMUM REQUIREMENTS AND ARE SUPERSEDED BY THE REQUIREMENTS OF THE LOCAL AUTHORITY WITH JURISDICTION OVER THE ROADWAY, WHEN APPLICABLE.

FIG 2.22.1

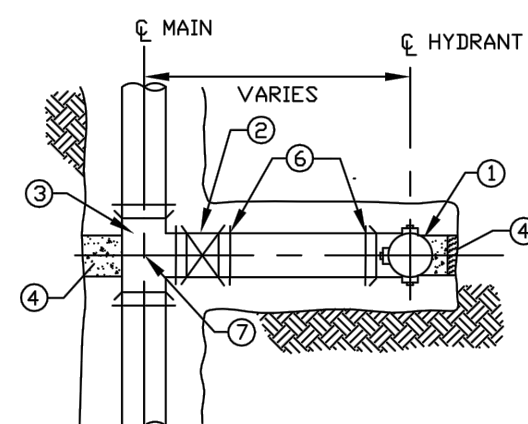
LAKE COUNTY  
DEPARTMENT OF UTILITIES  
TRENCH AND BEDDING DETAILS  
DATE: 6-16 DRAWN BY: DDB SCALE: NONE



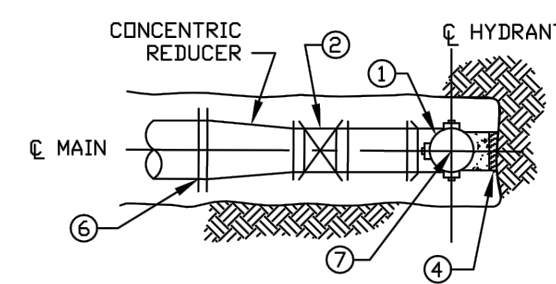
- NOTES:
1. THE SIZE AND TYPE OF THE EXISTING WATER MAIN SHALL BE FIELD VERIFIED PRIOR TO CUTTING INTO THE EXISTING MAIN TO ENSURE CORRECT SOLID SLEEVE SIZE.
  2. NO CAST IRON FITTINGS SHALL BE PERMITTED.
  3. \* = CONNECTION SHALL BE MADE WITH RESTRAINED MECHANICAL JOINT SOLID SLEEVES (LONG PATTERN) DUCTILE IRON CLASS 350.
  4. ALL MATERIALS TO CONFORM TO THE LCDU APPROVED MATERIAL LIST.
  5. FITTINGS TO BE SUPPORTED BY SOLID CONCRETE BLOCKING WITH HARD WOOD SHIMS AS NEEDED.
  6. IF THE SPACE BETWEEN THE JOINT IS GREATER THAN 1/2-INCH, THEN A FULL CIRCLE SPACER OR "DUTCHMAN" MUST BE CUT AND PLACED IN THE GAP BEFORE THE SLEEVE IS USED TO CLOSE THE JOINT.
  7. THE "DUTCHMAN" SPACER SHALL BE CUT TO A WIDTH NO LESS THAN 1/4-INCH LESS THAN THE NARROWEST WIDTH OF THE JOINT.
  8. EACH PIPE SPOOT SHALL BE MARKED TO INDICATE THE POINT WHERE THE SHEEVE WILL BE PROPERLY CENTERED OVER THE POINT.

FIG 2.6.2

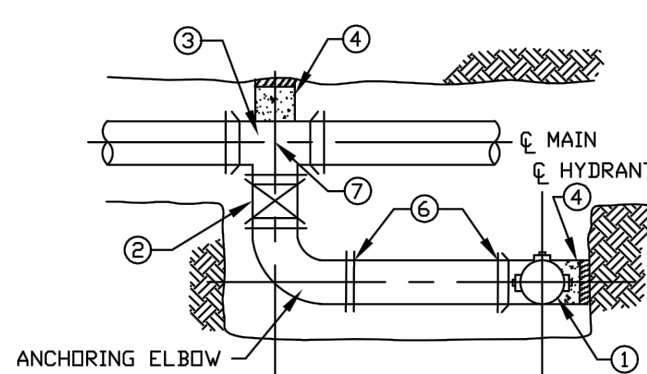
LAKE COUNTY  
DEPARTMENT OF UTILITIES  
CUT-IN DETAIL WITH VALVE  
DATE: 3-17 DRAWN BY: DDB SCALE: NONE



TYPE "A" HYDRANT ASSEMBLY



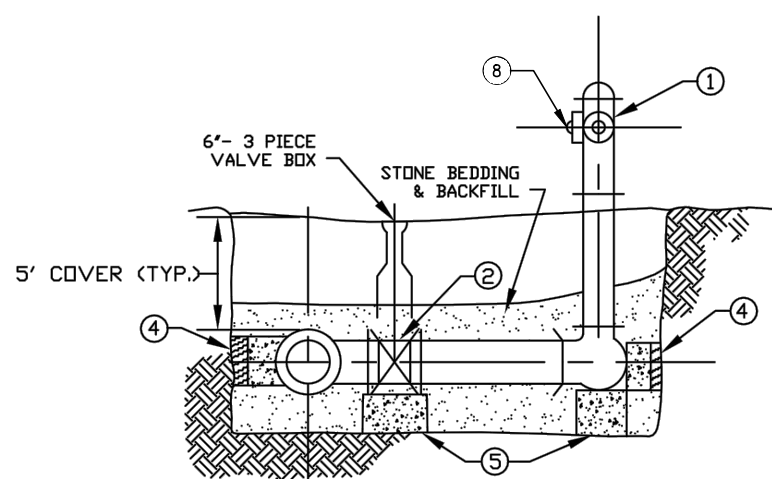
TYPE "C" HYDRANT ASSEMBLY



TYPE "B" HYDRANT ASSEMBLY

- 1 HYDRANT, PER SPECIFICATIONS
- 2 6" GATE VALVE
- 3 SWIVEL ANCHORING TEE OR MJ X MJ X MJ TEE
- 4 CONCRETE BLOCKING WITH DAK WEDGES AGAINST UNDISTURBED EARTH
- 5 CONCRETE SUPPORT BLOCKING
- 6 JOINT RESTRAINT, (TYP. TEE TO HYDRANT)
- 7 PLAN STATION AND OFFSET
- 8 5" STORZ FITTING ON HYDRANT

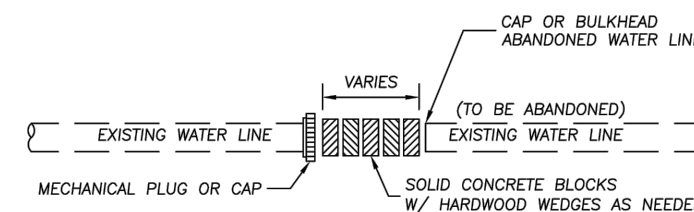
NOTE: ALL MATERIALS SHALL BE AS LISTED IN THE LCDU APPROVED MATERIAL LIST



TYPICAL HYDRANT ASSEMBLY ELEVATION

FIG 2.12.1

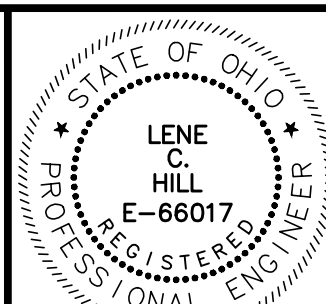
LAKE COUNTY  
DEPARTMENT OF UTILITIES  
HYDRANT DETAILS  
DATE: 5-16 DRAWN BY: D.D.B. SCALE: NONE



PLAN VIEW

FIG 2.5.2

LAKE COUNTY  
DEPARTMENT OF UTILITIES  
SOLID BLOCKING DETAIL FOR ABANDONED WATERLINES  
DATE: 5-16 DRAWN BY: DDB SCALE: NONE



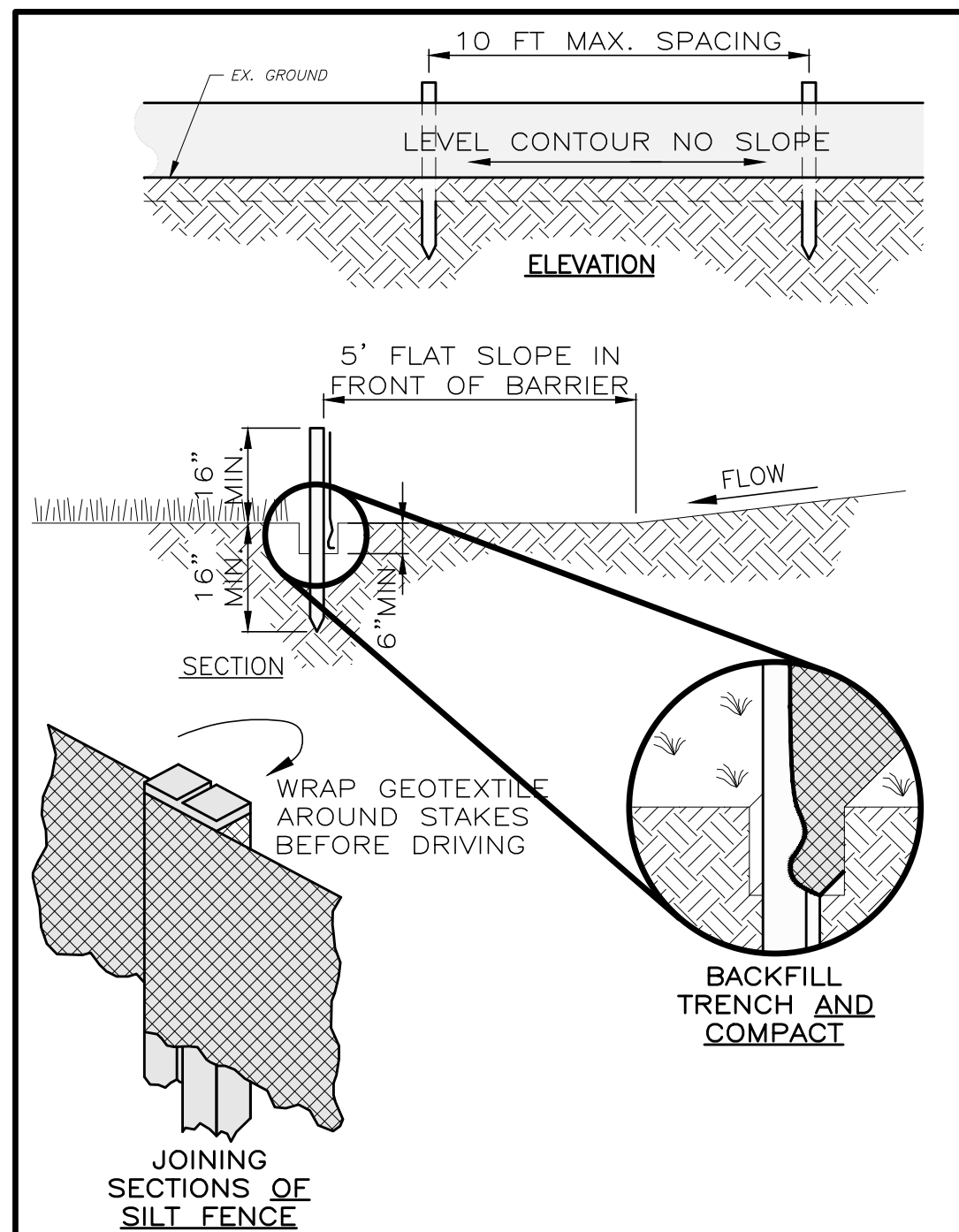
NO	REVISION	DATE

THE CITIES OF WILLOUGHBY & EASTLAKE  
WATER POLLUTION CONTROL CENTER  
WATERMAIN IMPROVEMENTS  
PART B  
LAKE COUNTY, OHIO

SCALE: AS SHOWN  
DATE: 04/22/2024  
DESIGNED BY: BLM  
DRAWN BY: BTZ  
CHECKED BY: TJM

DETAILS

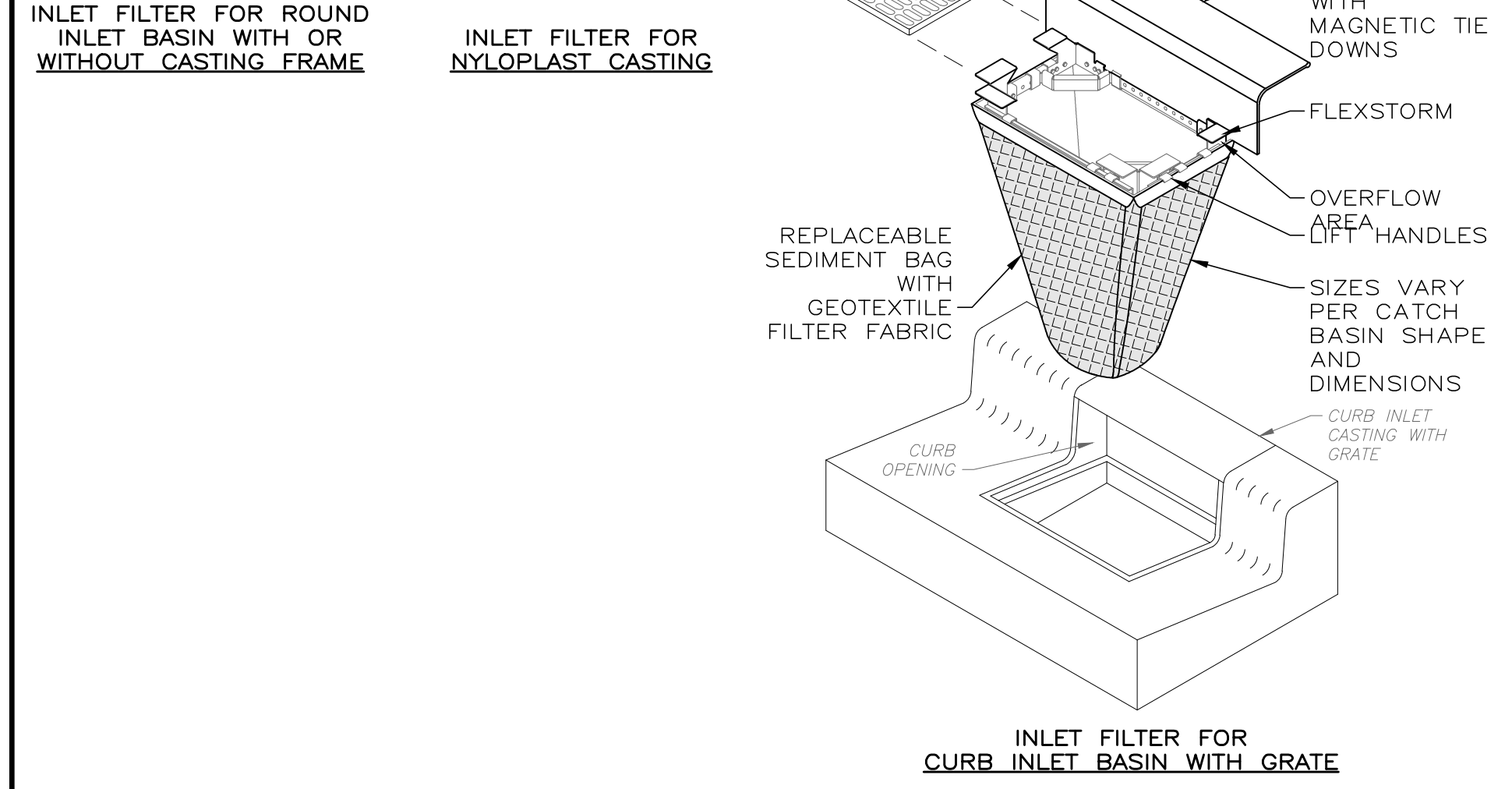
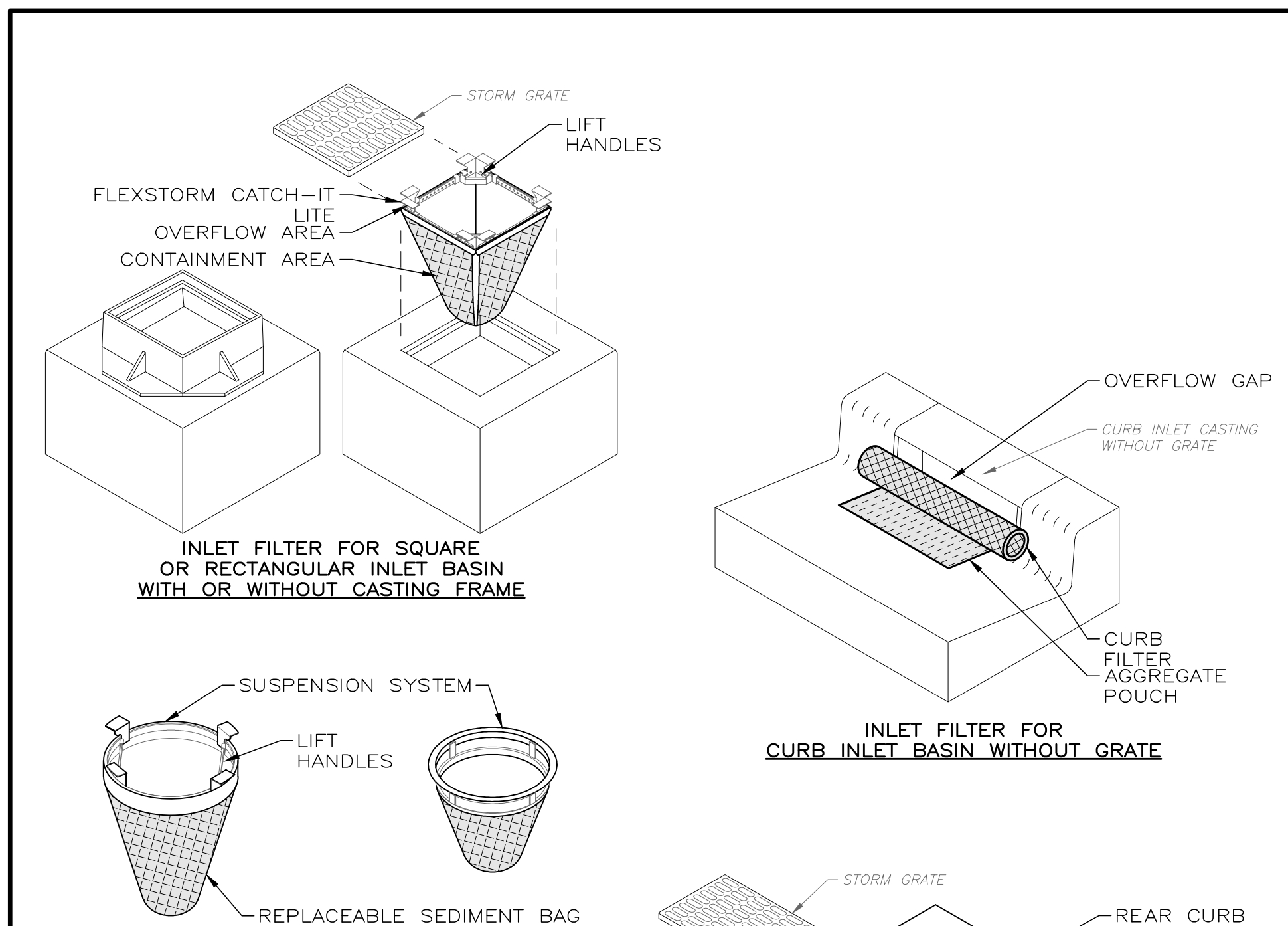
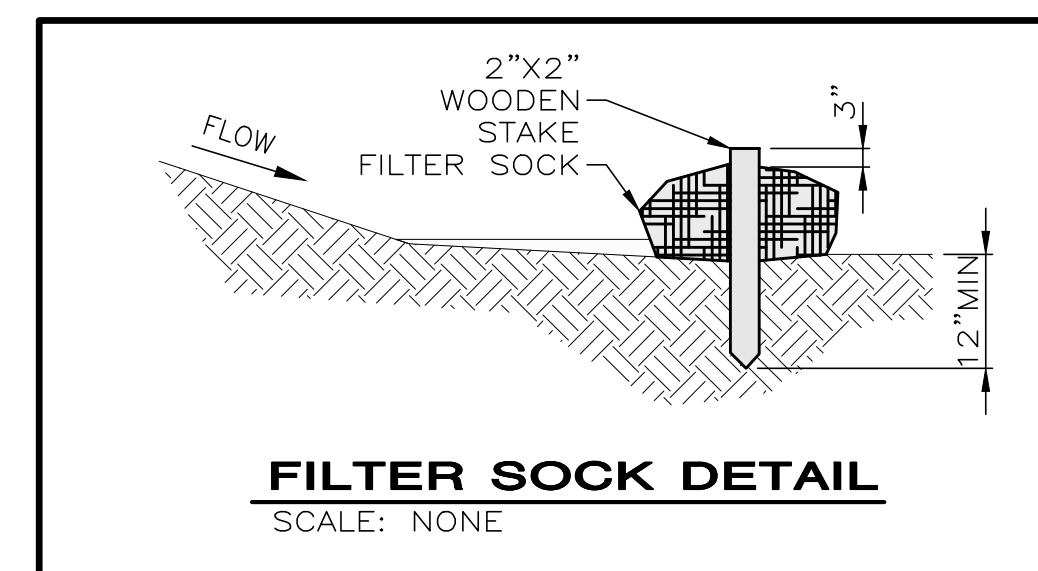
PROJECT NO:  
23004301  
DRAWING NAME  
DT-02  
SHEET 9 OF 11



- NOTES:
- PRESERVE VEGETATION FOR 5 FEET, OR AS MUCH AS POSSIBLE, UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM SILT FENCE INSTALLATION.
  - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. PERFORM ONE OF THE FOLLOWING IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW:
    - CHANGE THE LAYOUT OF THE SILT FENCE.
    - REMOVE ACCUMULATED SEDIMENT.
    - INSTALL OTHER PRACTICES.

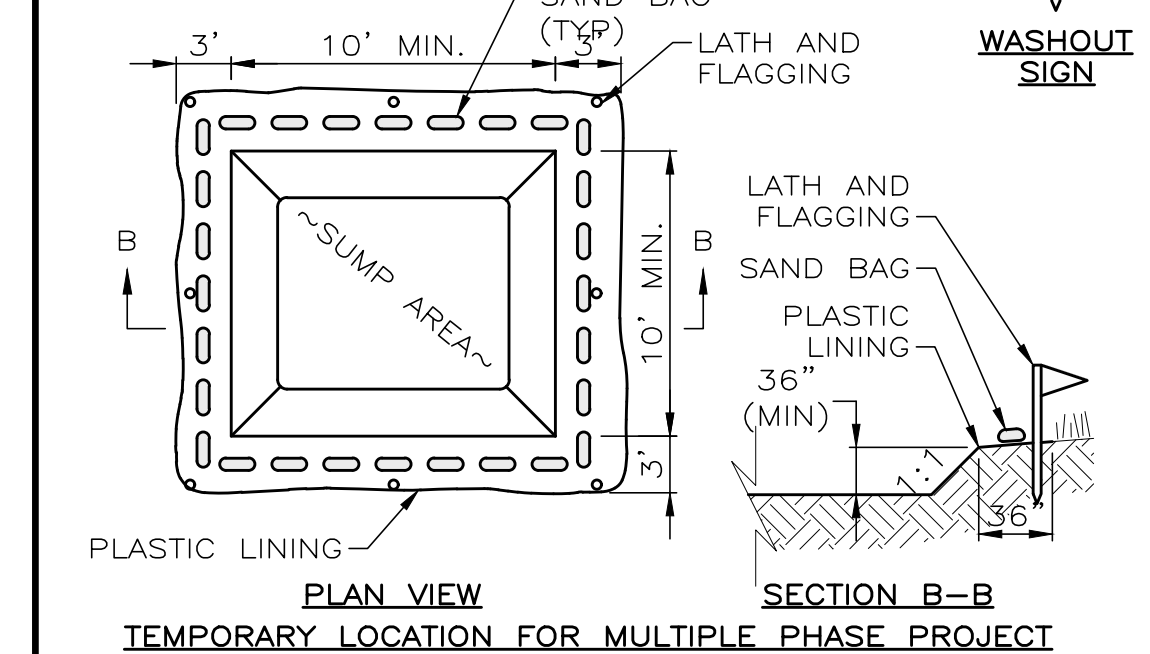
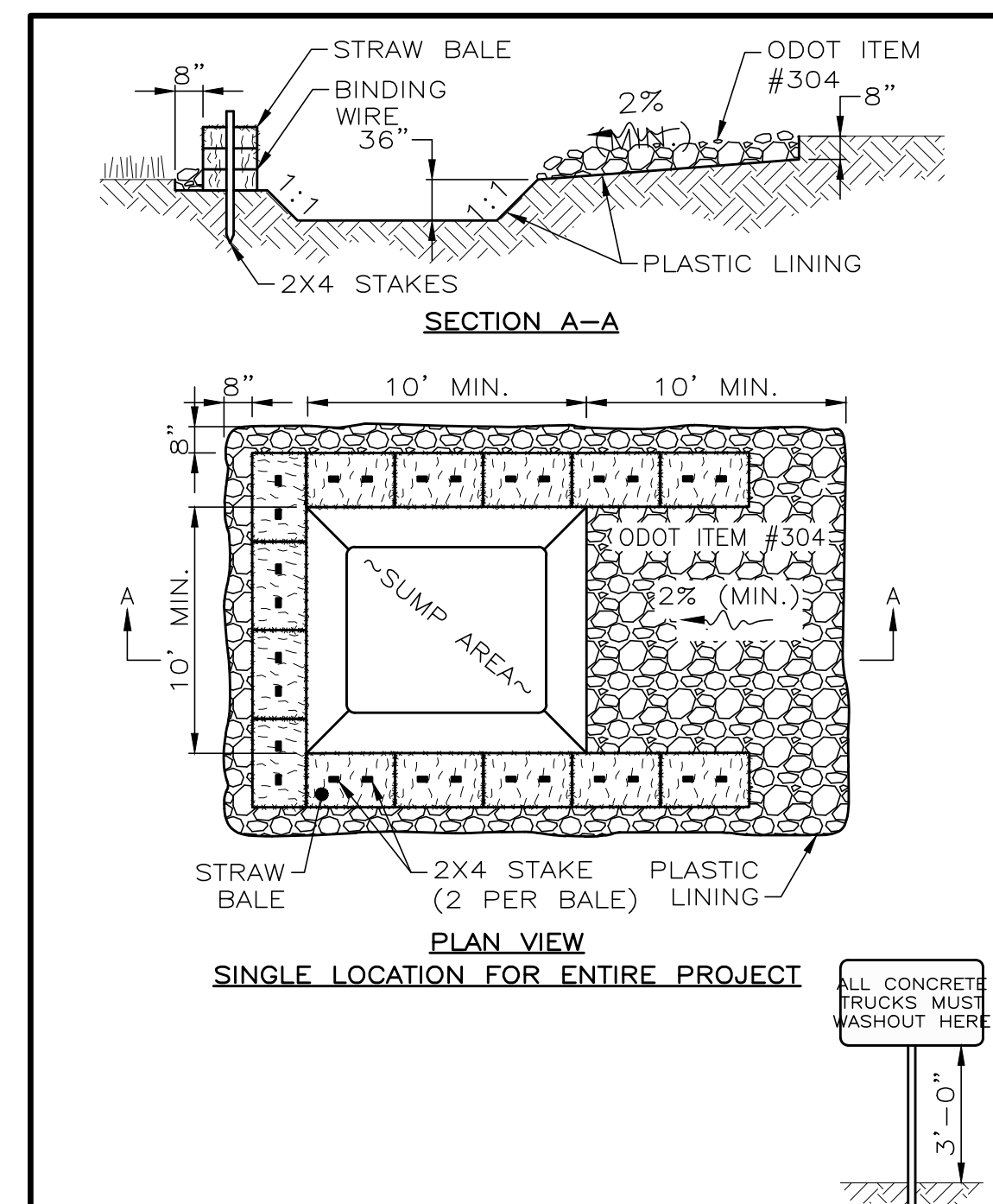
FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MIN	ASTM D-1682
MULLEN BURST STRENGTH	190 PSI MIN	ASTM D-3786
SLURRY FLOW RATE	0.3 GAL./MIN./S.F. MAX.	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MIN	ASTM-G-26

**SILT FENCE**  
SCALE: NONE



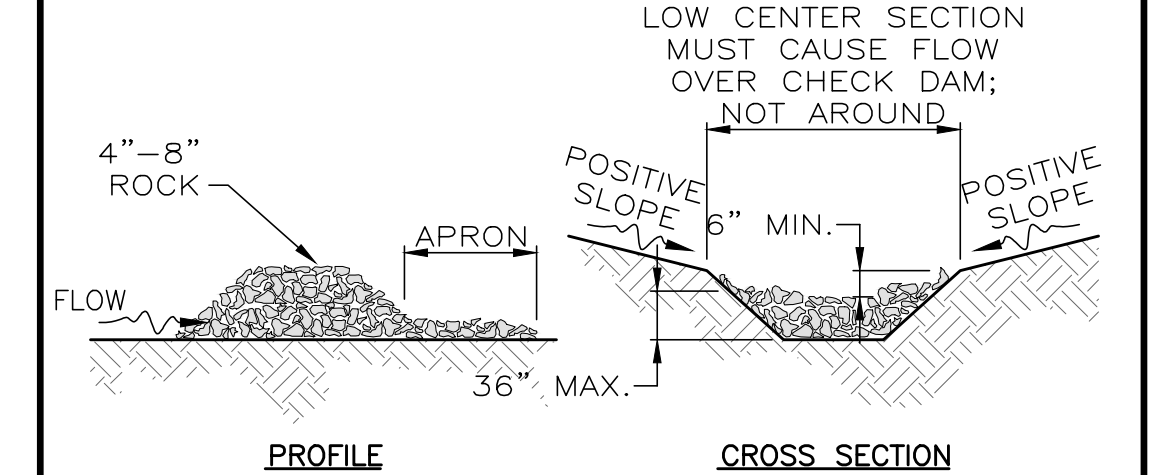
- NOTES:
- ALL FRAMING SHALL BE CONSTRUCTED OF CORROSION RESISTANT STEEL (ZINC PLATED OR GALVANIZED) FOR 7 YEAR MINIMUM SERVICE LIFE.
  - CONTRACTOR SHALL PROVIDE EXISTING OR PROPOSED STRUCTURE DETAILED DIMENSIONS, CASTING CALLOUT, MAKE AND MODEL TO CONFIGURE AND ASSEMBLE CUSTOMIZED FLEXSTORM INLET FILTERS.

**STORM DRAIN INLET PROTECTION DETAIL**  
SCALE: NONE



- NOTES:
- WASHOUT PIT SHALL BE LOCATED 100' MINIMUM FROM INLETS, STREAMS, WETLANDS AND ANY OTHER SURFACE WATERS.
  - ALL EXCESS CONCRETE AND CONCRETE WASHOUT, INCLUDING FROM HAND MIXERS AND LIGHT EQUIPMENT, SHALL BE DISPOSED OF IN THE CONCRETE WASHOUT AREA. DISPOSAL OF EXCESS CONCRETE OR CONCRETE WASHOUT ON THE GROUND, OR IN STORM DRAINS, DITCHES OR WATER BODIES, IS PROHIBITED.
  - CONCRETE WASHOUT AREA SHALL BE SUFFICIENT SIZE TO CONTAIN CONCRETE WASTE GENERATED. FOR LARGER SITES, MULTIPLE CONCRETE WASHOUT AREAS MAY BE REQUIRED.
  - IF CONCRETE WASHOUT AREA IS LOCATED AWAY FROM A PAVED SURFACE, CONSTRUCT A GRAVEL ACCESS ROUTE EQUAL IN COMPOSITION TO THE CONSTRUCTION ENTRANCE.
  - PLASTIC LINING SHALL BE DOUBLE-LINED, CONTINUOUS 10-ML POLYETHYLENE SHEETING FREE OF HOLES, TEARS OR OTHER DEFECTS, AND INSTALLED ON A SMOOTH, LEVEL SURFACE, FREE OF ROCKS OR DEBRIS.
  - CONCRETE WASHOUT SIGNAGE SHALL BE CLEARLY VISIBLE AND LOCATED WITHIN 30 FEET OF EACH WASHOUT AREA.
  - CONCRETE WASHOUT AREAS SHALL BE COVERED DURING INCLEMENT WEATHER TO PREVENT OVERFLOWS.
  - PREFABRICATED, PORTABLE AND RE-USABLE CONCRETE WASHOUT CONTAINERS ARE ACCEPTABLE, BUT MUST BE SPECIFICALLY DESIGNED FOR CONCRETE WASHOUT USE.
  - CONCRETE WASHOUT AREA SHALL BE INSPECTED DAILY TO CHECK FOR DAMAGE AND TO DETERMINE IF IT NEEDS CLEANED OR REPLACED. ANY DAMAGE TO THE SIDEWALLS OR POLYETHYLENE SHEETING SHALL BE REPAIRED IMMEDIATELY. THE CONCRETE WASHOUT AREA SHALL BE CLEANED OR REPLACED WHEN IT IS 75% FULL. THE POLYETHYLENE SHEETING SHALL BE REPLACED AFTER EACH CLEANING.
  - SAW CUT CONCRETE, RESIDUE FROM SAW CUT, AND GRINDINGS SHALL BE DISPOSED OF IN THE WASHOUT PIT.

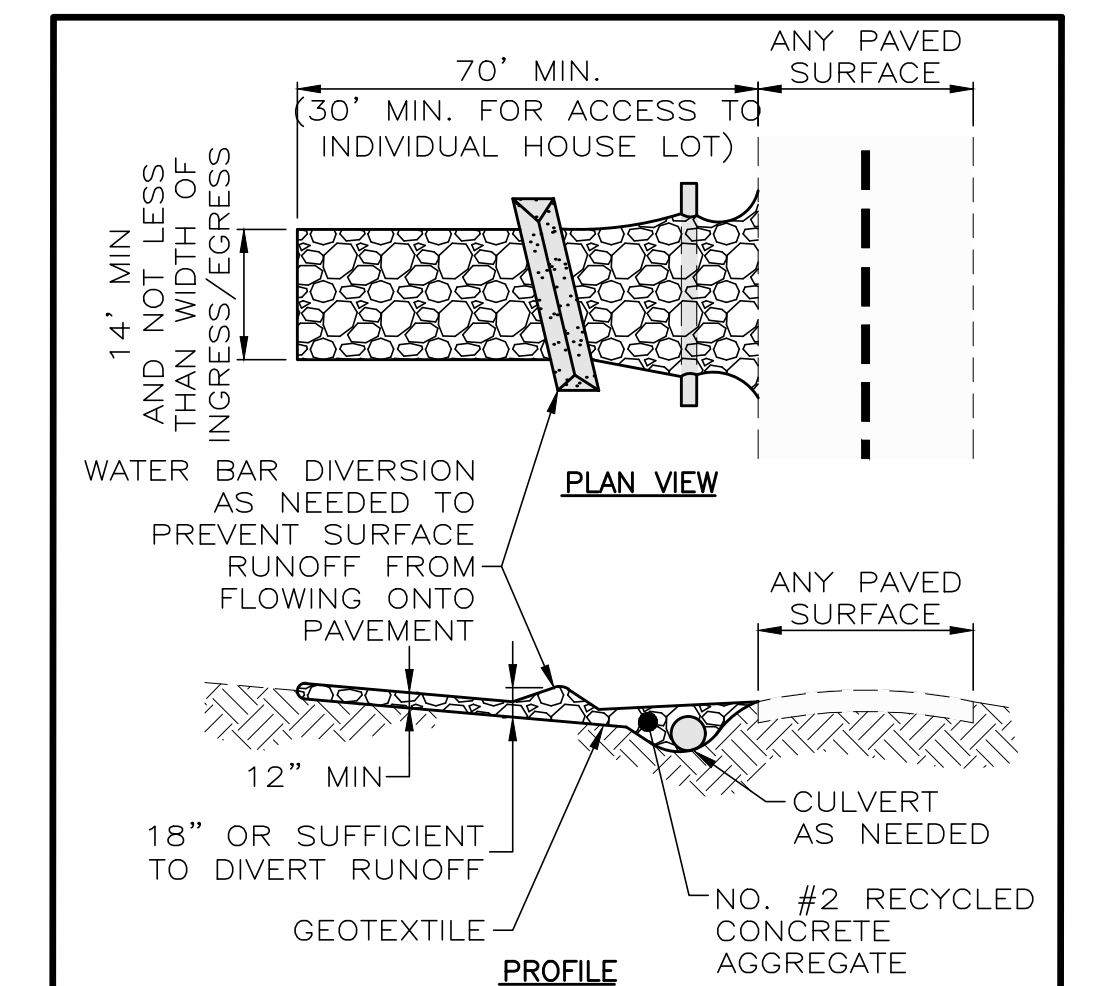
**CONCRETE WASHOUT DETAIL**  
SCALE: NONE



- NOTES:
- THE CHECK DAM SHALL BE CONSTRUCTED OF 4" TO 8" DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL.
  - THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THE CENTER IS APPROXIMATELY 6" LOWER THAN THE OUTER EDGES; SO WATER WILL FLOW ACROSS THE CENTER AND NOT AROUND THE ENDS.
  - THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER OF THE WEIR SHALL NOT EXCEED 36".
  - SPACING BETWEEN DAMS SHALL BE AS SHOWN IN THE CONSTRUCTION PLANS OR BY THE FOLLOWING TABLE:

DAM HEIGHT	CHECK DAM SPACING			
	CHANNEL SLOPE			
	< 5%	5% - 10%	10% - 15%	15% - 20%
1 FT.	65 FT.	30 FT.	20 FT.	15 FT.
2 FT.	130 FT.	65 FT.	40 FT.	30 FT.
3 FT.	200 FT.	100 FT.	65 FT.	50 FT.

**CHECK DAM DETAIL**  
SCALE: NONE



- NOTES:
- PLACE GEOTEXTILE OVER THE ENTIRE AREA PRIOR TO PLACING STONE MEETING THE MIN. SPECIFICATIONS:
    - A. TENSILE STRENGTH = 200 LBS.
    - B. PUNCTURE STRENGTH = 80 PSI
    - C. TEAR STRENGTH = 50 LBS.
    - D. BURST STRENGTH = 320 PSI
    - E. ELONGATION = 20%
    - F. EQUIVALENT OPENING SIZE ≤ 0.6 MM
    - G. PERMITTIVITY = 0.001 CM/SEC
  - APPLY ADDITIONAL STONE AS CONDITIONS DEMAND AND REPLENISH STONE WHEN THE DEPTH IS LESS THAN 6". REMOVE AND REPLACE IF STONES BECOMES MUD-LADEN.
  - IMMEDIATELY REMOVE MUD DROPPED, WASHED OR TRACKED ONTO ROADS OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS BY SCRAPING OR SWEEPING.
  - CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES OR TO PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

**CONSTRUCTION ENTRANCE**  
SCALE: NONE



NO	REVISION	DATE

THE CITIES OF WILLOUGHBY & EASTLAKE  
WATER POLLUTION CONTROL CENTER  
WATERMAIN IMPROVEMENTS  
PART B  
LAKE COUNTY, OHIO

SCALE: AS SHOWN  
DATE: 04/22/2024  
DESIGNED BY: BLM  
DRAWN BY: BTZ  
CHECKED BY: TJM

**EROSION AND SEDIMENT CONTROL**

PROJECT NO:  
**23004301**  
DRAWING NAME  
**ESC-01**  
SHEET OF  
**10 11**

**STORM WATER POLLUTION PREVENTION PLAN NOTES**

1. THE EROSION CONTROL MEASURES INCLUDED IN THIS PLAN SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING SILT FENCE, SEDIMENT BASINS, ETC. AS SHOWN ON THIS PLAN. STRUCTURAL PRACTICES SHALL BE USED TO CONTROL EROSION FROM ALL SITES REMAINING DISTURBED FOR MORE THAN 14 DAYS.
2. THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIALS, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL, IS REQUIRED. COMPLIANCE IS REQUIRED WITH ALL STATE OR LOCAL REGULATIONS REGARDING WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEMS.
3. PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEARED OF ACCUMULATED SEDIMENT. OFF-SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD NOTED ON PLAN. BULK CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING THE AREA WITH WATER. CLEARED SEDIMENT SHALL BE RETURNED TO THE POINT OF LIKELY ORIGIN OR OTHER SUITABLE LOCATION.
4. EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, ALL DISTURBED AREAS OVER 50 FEET AWAY FROM THE STREAM BED TO REMAIN INACTIVE FOR MORE THAN 14 DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING, COVERING, OR BY OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN SEVEN (7) DAYS OF THE MOST RECENT DISTURBANCE AND PRIOR TO THE ONSET OF WINTER WEATHER. PERMANENT SOIL STABILIZATION SHALL BE PROVIDED WITHIN 7 DAYS AFTER FINAL GRADE IS ESTABLISHED.
5. EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, ALL DISTURBED AREAS WITHIN 50 FEET OF THE STREAM BED TO REMAIN INACTIVE FOR MORE THAN 14 DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING, COVERING, OR BY OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN TWO (2) DAYS OF THE MOST RECENT DISTURBANCE AND PRIOR TO THE ONSET OF WINTER WEATHER. PERMANENT SOIL STABILIZATION SHALL BE PROVIDED WITHIN 2 DAYS AFTER FINAL GRADE IS ESTABLISHED.
6. DISTURBED AREAS WHICH WILL REMAIN IDLE DURING THE WINTER MONTHS SHALL BE STABILIZED USING SEEDING AND MULCHING. SUCH STABILIZATION MEASURES MUST BE INSTALLED NO LATER THAN NOVEMBER 1.
7. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATION INCLUDED HEREIN. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
8. DURING THE PERIOD OF CONSTRUCTION ACTIVITY, ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR. AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TRANSFER OF MAINTENANCE RESPONSIBILITIES, IF REQUIRED, WITH THE OWNER. MAINTENANCE SHALL BE IN ACCORDANCE WITH THE "OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2006)".
9. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE "OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2006)," AND THE THE OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T.) STANDARD CONSTRUCTION DRAWING MC-11.
10. POST CONSTRUCTION STORM WATER MANAGEMENT: ALL DISTURBED AREAS SHALL HAVE ADEQUATE VEGETATION TO FILTER POLLUTANTS AS MUCH AS PRACTICAL. LOCAL LAWS REGARDING THE DISCHARGING OF OIL AND OTHER POLLUTANTS INTO DRAINAGE-WAYS SHALL APPLY.
11. ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED IN ACCORDANCE WITH THE CONDITIONS OF APPLICABLE NPDES PERMITS.
12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE REMOVED AND DISPOSED OF WITHIN THIRTY DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY PRACTICES ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION.
13. THIS EROSION CONTROL PLAN MUST BE RETAINED ON-SITE AT ALL TIMES DURING THE PERIOD OF CONSTRUCTION.
14. FIELD ADJUSTMENTS FOR LOCATION AND DIMENSION OF SEDIMENT CONTROL DEVICES MAY BE MADE BY THE ENGINEER AS REQUIRED.
15. EROSION CONTROL DEVICES REMOVED DURING GRADING OPERATIONS SHALL BE PUT BACK IN PLACE AT THE END OF THE DAY OR DURING INCLEMENT WEATHER.
16. NO SOIL, ROCK, DEBRIS, OR OTHER MATERIAL SHALL BE DUMPED OR PLACED INTO A WATER RESOURCE OR INTO SUCH PROXIMITY THAT IT MAY READILY SLOUGH, SLIP, OR ERODE INTO A WATER RESOURCE UNLESS DUMPING OR PLACING IS AUTHORIZED BY THE ENGINEER AND, WHEN APPLICABLE, THE U.S. ARMY CORPS OF ENGINEERS, FOR SUCH PURPOSES AS, BUT NOT LIMITED TO, CONSTRUCTION BRIDGES, CULVERTS, AND EROSION CONTROL STRUCTURES.
17. THE CONTRACTOR IS RESPONSIBLE TO CONFORM TO ALL REGULATORY REQUIREMENTS FOR DISCHARGING WATER RELATED TO DE-WATERING ACTIVITIES. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE COST OF ITEM 503 - COFFERDAMS, CRIBS AND SHEETING.
18. SEDIMENT PONDS/TRAPS AND PERIMETER CONTROLS SHALL BE IMPLEMENTED AS A FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE STABILIZED.
19. EROSION CONTROL BLANKETS WITH MATTING WILL BE USED ON DITCHES GREATER THAN 1.5% AND ALL OTHER SLOPES GREATER THAN 6% GRADE.
20. REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24 HOUR PERIOD. PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN.
21. MARK LIMITS OF CLEARING AND GRUBBING FOR APPROVAL PRIOR TO CONSTRUCTION. AFTER CLEARING, BUT BEFORE GRUBBING, INSTALL ALL INITIAL EROSION CONTROL ITEMS. AFTER GRUBBING, BUT BEFORE TOPSOIL STRIPPING AND GRADING, INSTALL CONSTRUCTION FENCING AT THE CLEARING LIMIT LINE.
22. PROTECT UNDISTURBED AREAS THROUGHOUT CONSTRUCTION. DO NOT STORE EQUIPMENT, VEHICLES OR MATERIALS IN THE PROTECTED AREA BEYOND THE CONSTRUCTION FENCE.
23. OFF-SITE VEHICLES TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN.
24. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
25. THE CONTRACTOR SHALL MAINTAIN AN SWPPP INSPECTION LOG IN THE FIELD.

26. ALL CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL, AS REQUIRED BY OHIO REVISED CODE (ORC) 3714.
27. NO TURBID STORM WATER MAY BE DISCHARGED OFF SITE.
28. THE CONTRACTOR SHALL CREATE A SIGN THAT WILL BE DISPLAYED ON SITE LABELING THE STEPS FOR SMALL AND LARGE OIL SPILL PROCEDURES. A SPILL RESPONSE KIT SHALL BE MAINTAINED ON THE SITE. THE SIGNAGE SHALL IDENTIFY WHERE THE KIT IS LOCATED.
29. (SMALL RELEASE) ANY DISCHARGE OF PETROLEUM OR PETROLEUM PRODUCTS OF LESS THAN 25 GALLONS ONTO A PERVIOUS SURFACE SHALL BE LEGALLY REMOVED AND PROPERLY TREATED OR PROPERLY DISPOSED OF, OR OTHERWISE REMEDIATED, SO THAT NO CONTAMINATIONS FROM THE DISCHARGE REMAINS ON-SITE. THE CONTRACTOR SHALL FOLLOW THE STEPS PROVIDED BELOW:
  - A. SPILLS LESS THAN 25 GALLONS THAT REMAINS ON SITE DOES NOT NEED TO BE REPORTED.
  - B. ALL SPILLS SHALL BE CONTAINED USING STRAW TO ABSORB THE LIQUID, A COMMERCIAL MATERIAL THAT IS CAPABLE OF ABSORBING OIL IN SOILS, MECHANICAL REMOVAL OR A VACUUM PUMP.
  - C. ONCE THE SPILL HAS BEEN CONTAINED, THE AFFECTED SOIL, MATERIAL AND/OR LIQUID SHALL BE LEGALLY DISPOSED OF IN A MUNICIPAL SOLID WASTE LANDFILL PERMITTED BY THE OHIO EPA.
30. (LARGE RELEASE) IN THE EVENT OF A LARGE RELEASE (25 OR MORE GALLONS) OF PETROLEUM WASTE, THE CONTRACTOR MUST CONTACT THE OHIO EPA AT 1-800-282-9378, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) WITHIN 30 MINUTES OF A SPILL OF 25 OR MORE GALLONS. THE CONTRACTOR SHALL FOLLOW THE STEPS PROVIDED BELOW:
  - A. ALL SPILLS GREATER THAN 25 GALLONS NEEDS TO BE REPORTED.
  - B. ALL SPILLS SHALL BE CONTAINED USING STRAW TO ABSORB THE LIQUID, A COMMERCIAL MATERIAL THAT IS CAPABLE OF ABSORBING OIL IN SOILS, MECHANICAL REMOVAL OR A VACUUM PUMP. IF THE SPILL IS HEADING TOWARD SURFACE OR GROUND WATER, THE CONTRACTOR SHALL SET BOOMS AS CLOSE TO THE WATER ENTRY POINT OF THE SPILL AS POSSIBLE.
  - C. ONCE THE SPILL HAS BEEN CONTAINED, THE AFFECTED SOIL, MATERIAL AND/OR LIQUID SHALL BE LEGALLY DISPOSED OF IN A MUNICIPAL SOLID WASTE LANDFILL PERMITTED BY THE OHIO EPA.

<p>1. APPLY MULCH OR OTHER APPROPRIATE VEGETATIVE PRACTICES TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT FOR MORE THAN 45 DAYS OR ON AREAS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.</p> <p>2. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:</p> <ul style="list-style-type: none"> <li>• UNROTTED SMALL-GRAIN STRAW APPLIED AT A RATE OF 2 TONS/AC. OR 90 LB/1,000 S.F. (2 TO 3 BALES) AND SPREAD UNIFORMLY BY HAND OR MECHANICALLY.</li> <li>• WOOD-CELLULOSE FIBER APPLIED AT A RATE OF 2,000 LB/AC. OR 46 LB/1,000 S.F.</li> <li>• MULCH MATTING.</li> <li>• WOOD CHIPS APPLIED AT 6 TONS/AC.</li> </ul> <p>3. ANCHOR MULCH IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. ACCEPTABLE ANCHORING METHODS ARE:</p> <ul style="list-style-type: none"> <li>• PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL USING A DISK, CRIMPER OR SIMILAR TOOL. DO NOT FINELY CHOP STRAW TO BE MECHANICALLY ANCHORED, BUT LEAVE LONGER THAN 6 INCHES.</li> <li>• USE NETTING PER THE MANUFACTURER RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF OR ON CRITICAL SLOPES.</li> <li>• SYNTHETIC BINDERS MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.</li> <li>• WOOD-CELLULOSE FIBER BINDER AT A NET DRY WEIGHT OF 750 LB/AC. WOOD CELLULOSE FIBER IS TO BE MIXED WITH WATER AND THE MIXTURE IS TO CONTAIN 50 LB/100 GAL. MAX. OF WOOD CELLULOSE FIBER.</li> </ul> <p style="text-align: center;"><b>MULCHING DETAIL</b> SCALE: NONE</p>	<p>1. TEMPORARY SEED TO BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 21 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.</p> <p>2. THE SEED BED IS TO BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.</p> <p>3. SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH ADEQUATE STANDS OF VEGETATION. PERFORM SOIL TESTS ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.</p> <p>4. APPLY SEED UNIFORMLY WITH CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER. COVER BROADCASTED SEED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPING INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, MIX THE SEED AND FERTILIZER ON SITE AND IMMEDIATELY USE.</p> <p>MULCHING TEMPORARY SEEDING 1. APPLY MULCH MATERIAL IMMEDIATELY AFTER SEEDING. SEEDING MADE DURING OPTIMUM SEEDING DATES ON FLAT AREAS WITH FAVORABLE SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE STABILIZATION. DORMANT SEEDING IS TO BE MULCHED. 2. SEE MULCHING FOR MATERIALS AND ANCHORING METHODS.</p> <p style="text-align: center;"><b>TEMPORARY SEEDING SPECIES SELECTION</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SEEDING DATES</th> <th>SPECIES</th> <th>LB/1,000 S.F.</th> <th>PER AC.</th> </tr> </thead> <tbody> <tr> <td rowspan="3">March 1 to August 15</td> <td>Oats</td> <td>3</td> <td>4 bushel</td> </tr> <tr> <td>Tall Fescue</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td>Perennial Ryegrass</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td rowspan="5">August 16 to November 1</td> <td>Perennial Ryegrass</td> <td>2</td> <td>40 lb.</td> </tr> <tr> <td>Tall Fescue</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td>Rye</td> <td>3</td> <td>2 bushel</td> </tr> <tr> <td>Tall Fescue</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td>Perennial Ryegrass</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td rowspan="5">November 1 to Spring Seeding</td> <td>Wheat</td> <td>3</td> <td>2 bushel</td> </tr> <tr> <td>Tall Fescue</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td>Perennial Ryegrass</td> <td>1</td> <td>40 lb.</td> </tr> <tr> <td>Perennial Ryegrass</td> <td>2</td> <td>40 lb.</td> </tr> <tr> <td>Tall Fescue</td> <td>1</td> <td>40 lb.</td> </tr> </tbody> </table> <p style="text-align: center;"><b>TEMPORARY SEEDING DETAIL</b> SCALE: NONE</p>	SEEDING DATES	SPECIES	LB/1,000 S.F.	PER AC.	March 1 to August 15	Oats	3	4 bushel	Tall Fescue	1	40 lb.	Perennial Ryegrass	1	40 lb.	August 16 to November 1	Perennial Ryegrass	2	40 lb.	Tall Fescue	1	40 lb.	Rye	3	2 bushel	Tall Fescue	1	40 lb.	Perennial Ryegrass	1	40 lb.	November 1 to Spring Seeding	Wheat	3	2 bushel	Tall Fescue	1	40 lb.	Perennial Ryegrass	1	40 lb.	Perennial Ryegrass	2	40 lb.	Tall Fescue	1	40 lb.
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**SPECIFICATIONS FOR PERMANENT SEEDING SITE PREPARATION:**

SEED MIX	SEEDING RATE		NOTES:
	LB./AC.	LB./1,000 S.F.	
GENERAL USE			
Creeping Red Fescue	20-40	1/2 TO 1	
Domestic Ryegrass	10-20	1/4 TO 1/2	
Kentucky Bluegrass	10-20	1/4 TO 1/2	
Tall Fescue	40	1	
Dwarf Fescue	40	1	

**SEEDBED PREPARATION:**

1. APPLY AGRICULTURAL GROUND LIMESTONE TO ACIDIC SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY AT RATE OF 100 LB/1,000 S.F. OR 2 TONS/AC.
2. APPLY FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY AT A RATE OF 12 LB/1,000 S.F. OR 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS.
3. LIME AND FERTILIZER TO BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3".

**SEEDING DATES AND SOIL CONDITIONS:**

1. SEED MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. THESE ARE IDEAL SEEDING DATES, BUT SEEDING MAY BE MADE ANY TIME THROUGHOUT THE GROWING SEASON WITH THE USE OF ADDITIONAL MULCH AND IRRIGATION. TILLAGE/SEED BED PREPARATION TO BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEE THE FOLLOWING SECTION ON DORMANT SEEDING FOR WINTER SEEDING.

**DORMANT SEEDINGS:**

1. DO NOT PLANT SEEDINGS FROM OCTOBER 1 TO NOVEMBER 20. SEEDS ARE LIKELY TO GERMINATE DURING THIS PERIOD, BUT PROBABLY WILL NOT SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED:
  - FROM OCTOBER 1 TO NOVEMBER 20, PREPARE THE SEED BED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20 AND BEFORE MARCH 15, INCREASE THE SEEDING RATES BY 50% AND BROADCAST THE SEED MIXTURE.
  - FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEED BED, LIME AND FERTILIZER, APPLY THE SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
  - APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO-SEEDED (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON FIRM, MOIST SEED BED.
  - WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEED BED IS TO BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG.

**MAINTENANCE FOR PERMANENT SEEDINGS FERTILIZATION AND MOWING**

MIXTURE	FORMULA	LB./AC.	TIME	MOWING
Creeping Red Fescue	10-10-10	500		≥3"
Domestic Ryegrass				
Kentucky Bluegrass				
Tall Fescue	10-10-10	500	Fall, yearly or as needed	≥4"
Dwarf Fescue	10-10-10	500		≥2"
Crown Vetch Fescue	0-20-20	400	Spring, yearly following establishment then every 4-7 years	Do not mow
Flat Pea Fescue	0-20-20	400		

Note: Other approved seed species may be substituted.

- IRRIGATION:**
1. PERMANENT SEEDING TO INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS AS NEEDED FOR ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.
  2. EXCESSIVE IRRIGATION RATES TO BE AVOIDED AND IRRIGATION MONITORED TO PREVENT EROSION AND DAMAGE FROM RUNOFF.
- MULCHING:**
1. APPLY MULCH MATERIAL IMMEDIATELY AFTER SEEDING. SEEDING MADE DURING OPTIMUM SEEDING DATES ON FLAT AREAS WITH FAVORABLE SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE STABILIZATION. DORMANT SEEDING IS TO BE MULCHED.
- SPECIFICATIONS FOR MAINTENANCE OF PERMANENT SEEDING:**
1. PERMANENT SEEDING TO NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF PLANTING. SEEDED AREAS TO BE INSPECTED FOR FAILURE AND VEGETATION REESTABLISHED AS NEEDED. DEPENDING ON SITE CONDITIONS, IT MAY BE NECESSARY TO IRRIGATE, FERTILIZE, OVERSEED, OR REESTABLISH PLANTINGS IN ORDER TO PROVIDE PERMANENT VEGETATION FOR ADEQUATE EROSION CONTROL.
  2. ESTABLISH MAINTENANCE FERTILIZATION RATES BY SOIL TEST RECOMMENDATIONS OR USING THE FOLLOWING RATES:

**PERMANENT SEEDING DETAIL**  
SCALE: NONE

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H:\2017\17004301\DWG\SHEETS\PART B\C-17004301 - EROSION & SEDIMENT CONTROL ADD - PB.DWG - ESC-2 - 4/22/2024 11:05:06 AM - SAMANTHA KARABEL